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ABSTRACT

Practicum objectives were to: select 3 outdoor campsites, each with the facilities to accommodate 120 students per week and to provide an environment to implement outdoor education concepts (knowledge and skills for intelligent environmental decision making and positive attitudes toward self, others, and the environment); prepare and disseminate an outdoor education guide for the Houston Independent School District; determine through the use of a pre- and post-instrument the degree of the student's modifications toward environmental awareness. From among 9,000 ethnically stratified (black, Mexican American, and other) fifth grade students participating in a sequence of outdoor camping experiences, 400 students were randomly selected as an experimental group; 100 non-camping students made up the control group. Both groups were given pre and post attitudinal questionnaires, and the experimental group was given the same instrument three months after the camping experience to determine if there were any carryover. Additionally, 35 participating teachers were given an opinionnaire for purposes of program improvement. In general, findings indicated that there were positive attitudinal changes as a result of the program. Among the recommendations made for future programs were: shorter nature walks; an opinionnaire for the parents of participating students; more clearly defined teacher roles; followup on the experimental group; etc. (JC)

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ADMINISTRATIVE PROCEDURES FOR ESTABLISHING AN EFFECTIVE OUTDOOR PROGRAM FOR 5th GRADE STUDENTS OF THE HOUSTON INDEPENDENT SCHOOL DISTRICT

by JOSEPH HUCKESTEIN

AUSTIN CLUSTER

RC009735

ADMINISTRATIVE PROCEDURES FOR ESTABLISHING AN EFFECTIVE OUTDOOR PROGRAM FOR 5TH GRADE STUDENTS OF THE HOUSTON INDEPENDENT SCHOOL DISTRICT

by Joseph J. Huckestein

Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education, Nova University

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NATIONAL ED.D. PROGRAM FOR EDUCATIONAL LEADERS

This practicum report was submitted in partial fulfillment of the requirements for the degree of Doctor of Education, Nova University National Ed.D. Program for Educational Leaders, Ft. Lauderdale, Fla.

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ADMINISTRATIVE PROCEDURES FOR ESTABLISHING AN EFFECTIVE OUTDOOR PROGRAM FOR 5TH GRADE STUDENTS OF THE HOUSTON INDEPENDENT SCHOOL DISTRICT

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ABSTRACT

Approximately 9000 ethnically stratified fifth grade students of the Houston Independent School District participated in a sequence of outdoor camping experiences. The purpose of this practicum was (1) to prepare a sequence of outdoor instructional experiences that would provide the students with knowledge and skills from which to make intelligent environmental decisions and (2) to develop a program in which participants would gain positive attitudes regarding themselves, others, and the environment.

As a means of evaluating the program and revising it accordingly, five hundred students were given an attitudinal questionnaire prior to the planned outdoor program. One hundred of these students were used as a control and 400 students were used as the experimental group. Following the camp experience, both groups of students were given the same attitudinal test. After a two-month period, the experimental group was readministered the same test. The findings indicated positive attitudinal changes toward the value of outdoor education.

An opinionnaire was completed by teachers who participated in the onsite activities. The purpose of this opinionnaire was to identify the problem areas and provide possible changes in the operation of the program.

IDENTIFICATION OF PROBLEM

Through the use of the mass media, people are becoming increasingly aware that serious problems exist within the environment. These problems include the unnecessary waste of natural resources and the pollution of water, air, and land. Such factors, coupled with an increasing population density, constitute a serious threat to the survival of life as it presently exists.

To help students realize that they are an inseparable part of the natural environment, opportunities must be provided for them to experience decision-making activities regarding treatment of the environment. Through these learning experiences, humans can learn to orchestrate efforts as an organized society toward a condition of productive harmony with the environment.

The misuse of the environment can be minimized by producing healthy attitudinal changes within the society. Individuals must learn to explore the environmental implications of all activities and the alternatives which are open to them.

Many claims have been made as to the value of such outdoor education programs. Some educators claim that learning subject matter is enriched and more meaningful because of first-hand experiences. Claims are made as to the rapport which is established between student and teacher, students and other students; and that total group living provides for a better democratic understanding of others. For the most part, these are claims only and are not based on actual data.

The state legislature has charged the Texas Education Agency with the responsibility for public school education, kindergarten through the twelfth grade. This agency is composed of the State Board of Education, the Office of the State Commissioner of Education, and the State Department of Education. Thus, the Texas Education Agency determines the extent and quality of basic educational services, sets the standards for school operation, and provides leadership. The Texas Education Agency's major obligation to the 1,130 school districts of Texas is to provide leadership and assistance to public school administrators in their educational efforts. By state legislation, the State Board of Education is charged with periodically reviewing the educational needs of the state and evaluating the achievements of educational programs in public schools.

The Goals for Public School Education in Texas were adopted October 3, 1970 and revised April 14, 1973 by the State Board of Education. Section 1, Paragraph D entitled "Physical and Environmental Health and Ecological Balance" and Section 1, Paragraph G, entitled "Use of Leisure Time," are directed specifically toward environmental education programs (See Exhibit A).

Based on this information, elementary and secondary school teachers and administrators have made numerous requests to the Agency for services in the area of environmental education. Among these was a request for the Agency to develop a suitable curriculum and determine the value of the Houston Independent School District outdoor environmental program to be initiated in September 1975. (See Exhibit B.)

This author, the Houston Independent School District, and other concerned educators see a lack of environmental knowledge as a major problem in reactions of the general population toward the misuse of the environment. The intent of this practicum has been to determine the value of the Houston program through the use of student and teacher questionnaires, interviews, and observations.

CONCEPTUALIZING A SOLUTION

Many of the administrators and teachers in the Houston Independent School District expressed a concern that their students were lacking in out-of-doors learning experiences. This, coupled with a desire to step up racial integration of students, led Houston into an outdoor education program. The program provides a strong academic program using activities which could not be duplicated on an elementary campus.

A curriculum guide to be used during the beginning stages of the program was prepared. This guide was approved by the advisory committee with recommendations that revisions be ongoing. Shortly after the program began, this writer designed an evaluative plan to determine the effectiveness of the experimental program. The study was to determine:

(1) If the experiences and activities designed and implemented for the students actually produced the expected results.

(2) What changes, if any, took place in the social structure of the group spending two or three days in outdoor center - were they more cooperative, understanding, congenial, tolerant, and responsible?

(3) What evidence was there to indicate that democratic principles were learned in resident outdoor centers?

(4) If teacher-student, student-student rapport changed.

(5) If students who had participated in outdoor experiences for five days were appreciably different, and if so, for how long.

(6) If environmental awareness became a part of each child's daily life.

Based on the evaluation data, program and curriculum revisions will be made and approved by the Advisory Committee during June 1976. Implementation of changes will be initiated in September 1976.

PRACTICUM OBJECTIVES AND DESIGN

Objectives

The objectives of this practicum are:

- to select three outdoor campsites, each with the facilities to accommodate 120 students per week and to provide an environment to implement outdoor education concepts. (See Exhibit D.)
- to prepare and disseminate an outdoor education guide for Houston school administration and personnel
- to determine through the use of a pre and post instrument the degree of the student's modifications toward environmental awareness.

Environmental awareness as discussed here refers to the attitude which the student has toward his environment, the problems and solutions, and a commitment to react in a positive manner. The expected outcomes of this practicum will provide information which will determine the basis for future outdoor education by formulating specific recommendation to the administrators of the Houston Independent School District. The report and inferences drawn from the data can have a profound effect upon outdoor education in Houston and other districts. Efforts will be made to insure that this program can be replicated in other urban settings.

Plan of Action

The plan of action for this practicum was as follows:

Phase I	Conducted planning sessions with administrators of the Houston Independent School District.

Meetings with the administrators of the district were held regularly to determine what they envisioned as suitable campsites and how many students they planned to send to each one. Administrators were helpful also in determining the number of students they would provide as a sample for responding to the survey questionnaires and the schools in which they were to be tested.

Phase II Inspected and selected outdoor school sites and the curriculum to be used during the camp experience for students.

The writer accompanied the Houston Administrators and the writers Advisory Committee (See Exhibit C) to inspect the sites which had made bids for the Outdoor and Environmental contract with the district. A site check list (See Exhibit E) was used by each individual. It was an important factor that all three camps to be chosen be of different terrain and vegetation. Camps were chosen by their cleanliness, ability to fulfill the needs of the students, willingness to provide necessary personnel and facilities. The three camps chosen did not necessarily represent the best of each qualification requested, they did however, represent the highest total rating of the group.

Upon completion of the site selection, the writer, with the assistance of the advisory committee and administrators, began to determine an outline of the skills and attitudes to be developed in the program so that materials and supplies could be ordered and curriculum prepared.

After the philosophy of the district was determined and the limitations imposed by sites considered, the writer developed the needed curriculum before the beginning of the program. The curriculum was reviewed and approved many times in a step-by-step process before the opening of the sites.

Phase III Reviewed the available literature and consulted with authorities on student testing and modified student attitudinal instruments (completed January 1976.)

In order to prepare instruments which would measure the students' attitudes, the writer reviewed a number of instruments. It was most important that this instrument be one which could be easily read and responded to since many of the 5th grade students could not read.

In the final writing, it was determined that an instrument should be used which could be read to the students and responded to easily.

Phase IV Arranged the testing schedule for students who were to participate in the camp experience and administered the attitudinal measure to a random sample of fifth grade students.

Scheduling was a major factor to be able to test students at exactly the time which had been previously set. This often meant a change in the writer's schedule but one also in each of the schools where testing was to take place. Schedules had to be placed as nearly as possible to the exact time to conform to the plan devised by the Advisory Committee.

Phase V Readministered the attitudinal measure to the students who participated in the camp experience and the control group.

Students were tested by the writer and the assistant director of the outdoor program. Students had been asked to sign each of the questionnaires to which they responded. This was very helpful to analyze individual situations. It also was helpful to separate the experimental from the control group and to determine students who had participated in both testing programs. In some of the schools pupil turnover is high, therefore; a larger number of students were tested each time to maintain the 500 which would be needed for the final analysis of data.

Phase VI Prepared and administered questionnaire to Houston school personnel who worked with students.

Questionnaires were mailed to teachers of the fifth grade classes in schools where students would be taken to the outdoor centers for indepth studies. There were 45 teachers in the initial group. Only 34 teachers of this group responded. Six of the teachers did not attend with their classes and consequently were not qualified to respond to the questionnaires. Five teachers responded after the practicum data had been collected and put in final form.

Phase VII	Readministered the student attitudinal measure to students who participated in camp activities to ascertain student retension of attitudes.

The same procedure was followed as had been used on the previous two sessions. However, some difficulty arose in the fact that the schools were giving standardizing tests at this time and schedules for the outdoor program had to be shifted by one to two days.

Phase VIII	Analyzed the data generated and formulated inferences.

A careful study was made by the writer and shared with the Advisory Committee. Comments and suggestions from this group provided new insights which were incorporated into the final report.

Phase IX	Revised the curriculum guide for outdoor education for use in the Houston Independent School District schools outdoor sites based on limited basis.

Based on input from teachers, coordinators, site directors, students and parents, some revisions were made in the guide. Additional changes will be made when necessary.

Phase X

The findings of this study were made to the administrators of the Houston Independent School District, the Texas Education Agency, and administrators throughout the State.

The final report for this project was presented to the administrators of the Houston School District. They will be able to provide a more meaningful program during the next school year based on the data.

This writer as coordinator of Environmental Education in the State of Texas will use the information and guide to assist other education groups in the state to develop more meaningful programs.

ASCERTAINING THE REQUIRED INPUTS

Human Efforts

The Houston Independent School District made a request of the Texas Education Agency for leadership in the planning, implementation, and evaluation of an outdoor program for fifth grade students. The following personnel were involved in this practicum:

Practicum Coordinator - Wrote the practicum design, set up time lines, made all of the necessary contacts for approval, assisted in selection of site locations, prepared curriculum, administered tests, prepared final report.

Director of the Outdoor Program - Served on the Advisory Committee, made all arrangements with personnel and students of the Houston School District.

Assistant Director of the Outdoor Program - Scheduled testing of students and assisted in administering tests.

Elementary School Principals - Arranged for testing of experimental and control groups.

Classroom teachers - Responsed to the teacher questionnaire. Assisted in coordinating student attitudinal instruments.

Students - Attended camps, participated in activities, and responded to pre and post instruments.

Teachers attending the Outdoor Camps - Responded to the teacher and questionnaire. Assisted in coordinating student's tests.

Reviewed curriculum guides, observed and critiqued implementation.

Parents attending Outdoor Camps - Worked with students in supervising capacity.

Advisory Committee - Advised the writer on every aspect of the program.

Facilities

The facilities used for the practicum included:

(1) the auditoriums of five elementary schools and the six classrooms of two schools.

(2) the conference room of the Houston Independent School District and the conference room at Region IV Education Service Center where all Advisory Meetings were held.

(3) various offices for individual and group planning.

(4) three selected outdoor sites within a 90-mile radius of Houston.

Time Factor

The practicum activities and evaluation were conducted for a period of six months. Approximately 630 man hours were needed to complete the practicum. The time included total hours involved in carrying out the activities and the writing of the practicum report.

EXECUTING THE PRACTICUM

In a meeting with the Houston Independent School District administration and the Texas Education Agency relative to the proposed outdoor and environmental program, the writer requested permission to use the project as a basis for this practicum. This would be a service to both the district and the writer. The Houston administration was in full accord with the writer's request and a letter of proposal was drafted to Nova.

Upon approval from Nova, the author began planning with the Houston Independent School District Administrators and Advisory Committee relative to students to be served, curriculum to be designed, and personnel to be employed.

Selection of outdoor school sites was made after bid documents were received from local camp directors. A detailed check list was kept on each of the site visits. (See Exhibit D.) Three sites were selected in the final group. Each was different - one was in the piney woods, one in the rolling hill country, and one on the Gulf Coast. (See Exhibit E.)

A curriculum guide was developed on a basis of the objectives to be taught and on the capabilities of each camp. (See Exhibit F.)

Many curriculum guides presently exist for use with elementary students. However, these are not compatible with the plans which Houston elected to initiate. Also, activities were designed to fit a specific locale which was not the same as the Houston sites. Consequently, the writer found it necessary to devise a curriculum plan which was specifically planned for the Houston fifth grade students for two- and three-day excursions. This guide included guidelines, logistics, content, and activities.

The curriculum guide was developed based on the objectives of the district. Some activities were developed through a selection of ideas from curriculum guides and textbooks These activities were modified and changed to meet the needs of the Houston fifth grade students. Some activities for the guide were specifically written by the writer to meet the objectives of the Houston district and the environmental surroundings of the three selected campsites.

The guide was reviewed for content and curricular content and approved by the Advisory Committee. Revisions will be made during subsequent years based on this report, student needs, and camp coordinators input.

The writer developed a survey to be used in determining the value of the program and guide. This survey was distributed to 45 teachers of students attending the outdoor learning areas. (See Exhibit G.) A total of 34 completed the survey and returned the instrument. Five survey instruments were returned too late to be a part of this document and six teachers did not respond to the questionnaire because they did not attend the camp. The test results are given in the analysis of data. (Refer to pages 19-36.)

The design of the teachers survey was based on attaining attitudes and opinions of teachers attending the outdoor program with students toward the Houston Outdoor Education Program. This evaluation was completed because of the cooperative arrangements made by the director of the outdoor program and the teachers involved. The intent of this survey was to identify areas of weakness upon which action could be taken toward improving the programs in subsequent years.

Additionally, the instrument was designed to collect attitude data from the teachers who attended the outdoor camp with their students. Six statements were selected and phrased for the teachers so as to express both attitudes and opinions toward the program, learning experiences, and follow-up activities in the class. A rating scale, using a five-point version with a differential unit of one between points and five being the highest rating on the positive scale, was used for the first three questions.

Questions 4-6 required teachers to list or make statements about the program. The purpose of this was to provide the teacher a means of making comments and recommendations about the program and activities.

A review of selected literature provided information relative to samples of curriculum design, logistics of outdoor learning facilities, and evaluation instruments (See Exhibit H). Based on the literature, the data needed to evaluate the program, and the level of learning of the eleven year olds, an attitudinal test was devised and field tested. Modifications were made based on feedback and the resulting tests were approved by the Advisory Committee (See Exhibit I).

In order to evaluate the guide and the program at the end of the first year, the writer devised a plan which provided the necessary information. This plan was approved by the Houston School District and the Advisory Committee.

The attitudinal measure was administered at three intervals to 500 students randomly selected from seven schools. Four hundred of these students were scheduled to have camp experiences and would serve as the experimental group. The control group was selected from the same schools, and where possible, from the same classrooms. This arrangement provided a set of students who more nearly matched the experimental group in experiences, ethnic background, age, grade level, and socio-economic level. The control group did not have the camp experiences and responded to Questionnaires A and B-1 only.

It was evident to the writer that the selection of the control group could prevent a completely unbiased response to the questionnaire. Generally those students were not selected to attend camp by the teacher or principal or for reasons of their own. However, it was the decision of the District that those students be used as the control. This could have been an influencing factor on responses 1, 3, 4, 6, and 7.

The student's attitudinal instrument was specifically designed to collect attitudinal data from students that would be of value to the outdoor program. This instrument was designed to allow a measurement on a linear scale and to permit comparison of responses on a percentage basis.

The attitudinal measure was readministered to both the control and experimental groups two weeks after the experimental group returned from camp. This use of the attitudinal measure was coded "B-1." This was the same instrument used prior to the camp experience with the exception of two added questions to the experimental group. The added questions were:

Question 10 - What did you like most at camp?

Question 11 - What did you not like at camp?

The purpose of the two added questions were to sample the students' attitudes toward specific camping activities and for possible restructuring of camp program for the Houston Independent School District. In addition, give students an opportunity to make comments regarding the outdoor program.

The following schedule was approved by the Houston Independent School District (See Exhibit B).

February 23-26

March 29-31

May 24-26

ANALYSIS OF DATA

Thirty-four teachers who took their classes to at least one of the outdoor sites were asked to respond to a questionnaire (See Exhibit G). This questionnaire was designed to determine the effectiveness of the planning sessions in preparing the students for camp, the actual outdoor experience, and suggestions for follow-up activities and needed changes. The results were as follows:

TABLE 1

Frequency of Teacher Responses to Questions 1 through 3.

Teacher Questionnaire

Question	Teacher Response	High 5 Percent	4 Percent	3 Percent	2 Percent	Low 1 Percent
1. How effective was the planning session in preparing your class for this outdoor experience?	34	.41	.37	.19	.03	-
2. Were the camping activities appropriate to the level of your students?	34	.89	.11	-	-	-
3. Did the camping activities provide learning experiences for your students?	34	.85	.15	-	-	-

Question 1 - How effective was the planning session in preparing your class for this outdoor experience on a five point scale with five being the highest rating?

Analysis of the responses to question one revealed that the planning sessions conducted by the director and assistant director of the outdoor program reported by the majority of the teachers indicated the planning sessions were well planned.

Question 2 - Were the camping activities appropriate to the level of the student?

Analysis of the response to this question revealed that the majority of the teachers considered the camping experience appropriate to the learning level of the student.

Question 3 - Did the camping activities provide learning experiences for your students?

Analysis of the response to question 3 revealed that the majority of the teachers agreed that the camping activities provided learning experiences for their students.

Question 4 - List three things students gained from this outdoor experience. Statements by teachers are in the following table.

Cognitive Responses

- They gained a working knowledge of plants and their uses and animals and their habitat
- They also gained a knowledge of rustic living
- Learned more about the things that grow around them
- A much greater understanding of nature, simple enjoyment, "making do" with what you have
- A chance to really take part in activities which had been vicariously experienced
- To do things they have not been exposed to
- A chance to investigate recreation forms for the first time
- Living conditions which are very much different from home

Affective Responses

- How to appreciate more their surroundings
- The value of all living things
- To learn to live together with other children
- The realization that country life is not as bad as they thought
- That country life has something new every day
- A closeness with other children
- A lessening of the "generation gap"
- A much greater understanding of nature, simple enjoyment, "making do" with what you have
- Sharing many things with other students
- Learning under integrated conditions
- Making do with what you've got
- Making and meeting new friends of different ethinc backgrounds
- Learned to share and sportsmanship
- Good peer relation
- A chance to tell other students about their program
- To do things they have not been exposed to
- A chance to investigate recreation forms for the first time
- A chance to gain some independence
- Togetherness with other children
- Living conditions which are very much different from home
- Social interrelationship

Psychomotor Responses

- Learning by actual experience - being there and doing the actual things

- To do things they have not been exposed to
- Recreation facilities which are usually not available; such as trampoline, archery

The responses indicated that there were unique experiences that contributed to the student's experiences in the areas of science, social living, recreational skills, and an appreciation of nature. While there was some overlap of categories, the majority of the comments were in the affective domain.

Question 5 - What follow-up activities did you plan for your students? Statements from teachers were as follows:

- A more primitive-type camping trip in May
- Writing "thank-you" letters to camp
- Spelling new words that were used at camp (ex. counselor, canoeing)
- An animal study, ie. snakes, bugs, farm animals
- Talking about getting along with others
- Grow plants
- Group discussion
- Show and tell
- Demonstration
- Oral discussion
- Art activity of their experiences
- Introduce archery to the children's P.E. experiences
- Nature walks in school area
- Arts and crafts
- Safety lessons
- Athletic games and sportsmanship

- Additional follow-up of athletic games
- Visit of an animal shelter or zoo
- Extended arts and crafts
- Discussion with sharing of experiences
- Continue all the activities with discussions and additional research
- Draw related pictures and make diagrams
- Social Studies - races living in the city in harmony
- Science - identify plants
- Health - camping, hiking, swimming, safety practices
- The students will write paragraphs telling about some experiences they participated in - much can be said about the one most enjoyed
- I will encourage pupils to try to get parents and family to go camping
- Pupils can act as counselors
- Discussion of their learning experiences
- Sharing their experience with other students who didn't get a chance to come along on the trip
- Discuss experiences, perhaps creative writing, if I can see a desire
- Tell students who remained at school about experiences
- Hope to put archery into our P.E. department

The responses indicate that the teacher would follow up with activities to be conducted by the student upon returning to school from camp.

Question 6 - Do you have any suggestions for changes and/or additions to the Outdoor Learning Program? Statements from teachers follow:

- There should be something planned for the parents accompanying the students
- The program doesn't need changes, but additions should be left up to the counselors and administrators who have a better idea as to what would be more beneficial
- It would be nice to have some sort of activities planned for the parents or teachers
- The parents have something to do with the child or something else
- None for the children. We adults were a little bored during the rain - wished we had brought our knitting or papers to grade
- No
- Parents who have children attending should not come
- One of the nicest experiences I have had while teaching in HISD
- I think this is a very beneficial, worthwhile program. I hope it will continue to grow. I would very much like to be a part of it
- All material for parents should be in Spanish for the benefit of parents who read Spanish
- Camp personnel should be qualified personnel with experience in working with children. Camping facilities should be in completed stage before they are used
- Everything was very nice. The counselors were very good and understanding with the children
- Some counselors were very friendly and of great assistance - Carladee and Sharon
- Upon arrival, students had to wait much too long for directions and activities to begin

- Counselors should stay with children at meals or be assigned a specific table to oversee the children
- Perhaps less time in such regimented activities and more time for awareness of self in relation to others
- A smile now and then
- Facilities (sleeping) need to be cleaned and trash emptied
- Enthusiasm on part of counselors in instructing children in particular activities
- Time to select desired activities. An initial conversation with the students, listening to their suggestions pertaining to their interests
- Sports activities - baseball, football, soccer
- Clean up - known as policing in Boy Scouts
- Night games - Red Rover, British Bull Dog, Capture the Flag, etc.
- No. I wish more pupils had an opportunity to go on these kinds of camping trips
- None
- More involvement of teachers, at least, a definition of the teacher's role while at the center - if nothing is expected, then it should be stated. The counselors should realize and respect the teacher's position - we have these children every day, it is only natural for them to wave or speak or ask questions of us
- I felt the counselors could have had more interaction with the students other than in class or learning groups. The food could have been planned so that people who wanted seconds were provided for

- Add other grades to this experience
- Bedtime snacks would be nice

Some of the responses indicate the role of the teacher while at camp should be more clearly defined with suggested program for teachers who wish to participate.

The author concluded from the analysis of question 6 that the teachers' roles at the outdoor camp should be clearly defined by the Houston Independent School District and communicated to the camp counselors and teachers.

STUDENT QUESTIONNAIRES

Results of three tests administered to the students attending camp were made by item analysis and interpretations are as follows:

TABLE 2 - Responses to Question 1 on Student Questionnaire

Question 1: (A) Do you enjoy camping out-of-doors?

(B-1 & B-2) Do you enjoy camping out-of-doors?

Responses	No. of students Responding	PERCENT		
		Yes	No	Don't Know
Control Group				
Pre-test	100	.57	.09	.34
Post-test	100	.65	.03	.32
Experimental Group				
Pre-test (A)	400	.73	.02	.25
Post-test (B-1)	400	.99	.005	.005
Post-post-test (B-2)	400	100	.00	.00

This question was designed to find the base of operation from which children were beginning. A high percentage (25%) of these students responded to Pretest A with "don't know." A more careful analysis of the data indicated that 92% of the respondents under "don't know" were from schools located in the low socio-economic areas. Responses to Posttest B-1 administered two weeks after the outdoor experience indicated that they were able to relate to the experience. Responses of Posttest B-2, administered three months after Posttest B-1, indicated a strong carryover.

The 8% increase in affirmative responses by the control group could have been a result of hearing positive statements from the experimental group.

TABLE 3 - Responses to Question 2 on Student Questionnaire

Question 2: (A) Can you build a campfire?

(B-1 & B-2) Can you build a campfire?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group				
Pre-test	100	.40	.22	.38
Post-test	100	.42	.21	.37
Experimental Group				
Pre-test (A)	400	.39	.29	.32
Post-test (B-1)	400	.62	.16	.22
Post-post-test (B-2)	400	.63	.14	.23

This question was designed to check the involvement of each student in camp experiences. The curriculum included a late evening experience in groups of ten for a cookout. (See page 61 of curriculum guide, Exhibit F). This should have included every student. The results of the response would indicate that although 23% of the students improved, there were still 22% who were denied this experience due to poor weather conditions or poor administration at the camp. This decision will be decided by the Director of the Outdoor Centers for the Houston Independent School District. Posttest B-2 indicated that little changes had occurred regarding such an experience over the three-month period.

TABLE 4 - Response to Question 3 on Student Questionnaire

Question 3: (A) Do you enjoy a nature walk

(B-1 & B-2) Do you enjoy a nature walk?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group				
Pre-test	100	.68	.13	.19
Post-test	100	.72	.07	.21
Experimental Group				
Pre-test (A)	400	.90	.03	.07
Post-test (B-1)	400	.89	.10	.01
Post-post-test (B-2)	400	.96	.04	.00

A surprise to most of the camp counselors and administrators was that fewer children enjoyed the nature walk after having experienced it. Most complaints were not levied at the nature sights per se, but at the long distances which they were required to walk (as indicated in the response to question #11). Each of the nature trails are approximately one mile in length and require one hour to complete. On each trail, 10 to 15 items of interest are discussed. As a result of these responses, it is suggested that the length of the trail be shortened and that an indirect approach to identification of interesting nature studies be used.

TABLE 5 - Responses to Question 4 on Student Questionnaire

Question 4: (A) Should you kill all snakes?

(B-1 & B-2) Should you kill all snakes?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group				
Pre-test	100	.62	.05	.33
Post-test	100	.59	.06	.35
Experimental Group				
Pre-test (A)	400	.49	.50	.01
Post-test (B-1)	400	.97	.02	.01
Post-post-test (B-2)	400	100	.00	.00

This question was designed to find how effective the lesson on snakes (page 21 of the curriculum guide) had been in helping students to see the usefulness in some living creatures which they may have been told were useless. Strong indications are, from the change to "no" answers on the second test, that this particular idea had been handled well by counselors and that cognitive skills necessary to change attitudes had been gained.

TABLE 6 - Responses to Question 5 on Student Questionnaire

Question 5: (A) Do you like to go camping?

(B-1 & B-2) Did you like to go camping?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group Pre-test	100	.62	.05	.33
Post-test	100	.59	.06	.35
Experimental Group Pre-test (A)	400	.49	.50	.01
Post-test (B-1)	400	.97	.02	.01
Post-post-test (B-2)	400	100	.00	.00

It was generally determined through this question that students who had not previously participated in an outdoor experience extending over several days were not qualified to respond. It was a matter of "you never miss what you never had." Consequently, this tends to support the belief that students should be provided these experiences through schools where possible. This would allow for a structured learning situation - providing a wealth of experience from qualified teachers.

TABLE 7 - Responses to Question 6 on Student Questionnaire

Question 6: (A). Do you think you will make new friends at camp?

(B-1 & B-2) Did you make new friends at camp?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group Pre-test	100	.70	.18	.12
Post-test	100	.74	.12	.14
Experimental Group Pre-test (A)	400	.88	.01	.11
Post-test (B-1)	400	.97	.02	.01
Post-post-test (B-2)	400	.98	.02	.00

The rationale for this question was based on the manner in which students were grouped for learning and living while at the outdoor center. Students were in groups of ten, ethnically equivalent to the ratios in Houston - 40% Black, 20% Brown, 40% White. Although no mention was made of this to the students, nor was any issue made of the racial distrubution, it was evident through these responses that the 88% who responded "yes" on Pretest A were joined by others in Posttest B-1.

TABLE 8 - Responses to Question 7 on Student Questionnaire

Question 7: (A) Would you like to take your family camping?

(B-1 & B-2) Would you like to take your family camping?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group Pre-test	100	.65	.06	.29
Post-test	100	.71	.07	.22
Experimental Group Pre-test (A)	400	.80	.07	.13
Post-test (B-1)	400	.82	.07	.11
Post-post-test (B-2)	400	.88	.04	.08

The responses on this question clearly indicate that not enough time has been given to showing how a carry-over in activities from camp to home will be possible for students. Since an objective of the outdoor experiences is awareness of the environment, it is evident that curriculum changes are necessary. However, if this is an expected response, then objectives should be changed.

TABLE 9 - Responses to Question 8 on Student Questionnaire

Question 8: (A) Do you believe you should take care of the environment?

(B-1 & B-2) Do you believe you should take care of the environment?

Responses	No. of students responding	PERCENT		
		Yes	No	Don't Know
Control Group Pre-test	100	.92	.01	.07
Post-test	100	.97	.00	.03
Experimental Group Pre-test (A)	400	.93	.03	.04
Post-test (B-1)	400	.96	.01	.03
Post-post-test (B-2)	400	.98	.00	.02

Responses indicate that the schools and/or homes are already doing an acceptable job of teaching environmental awareness or the wording of the question tended to elicit a favorable response.

Question 9: If you circled yes to question #8, please explain why you should take care of the environment.

The answers for this question were varied. The following appeared more often.

- Yes, you should take care of the environment
- I will take care over my yard and my house I will take over my room
- Because it is a part of nature and we love nature
- So earth can last longer
- Because if I did not, I would not have anything done
- I think I should take care of my environment because the American Creed says it is my duty to my country to love and support it
- To help America look beautiful all the time. And keep the streets clean

- Because nature has given us all good things
- So that things will not burn down. And they can last longer. Because if they did burn down it would take a long time to re-build them
- Because it is part of my life
- You should take care of everything around you to keep this world clean
- Because everything else has to have a chance to live, look good, while its around because when your gone your gone
- It would last longer it could be handy
- If you don't take care of your environment it would just fade, all of the animals with it
- Because to keep America beautiful and all of our resources
- You should try to make a place better and not make it worse
- I would like to learn how to grow plants and keep America clean
- You should respect other things that do not belong to you
- Because I have to grow up
- Because I want it to look pretty at all times and when other people come to visit me they will say that my place looks good
- I should take care of our environment because if someone comes and visits our environment, they will not come again if it's not very clean, and I myself don't like to live in filth
- Because Texans need all the help they can get
- You should think of it as yours
- Some of the things around you can help you
- I think I should take care of everything around me because it is a part of life

- Because if you didn't this would be a dirty nasty world. If everybody didn't take care of their environment
- You should take care of your environment because so that all the people around us can use the same things we use
- Yes, because you should try your best to do what you can do for others and then they do better
- Yes because you can easily start a fire. If trash and paper is all piled up
- I think because if you did not we would not have any trees or animals
- Because it is not ours and this is our school and we love it
- I think you should because the things around you help you

These answers again tend to verify that students have had some school and/or home training related to environmental education.

Question 10: What did you like most at camp?

The following items were listed by the students. They are rank ordered here from most often listed to least often listed.

Number of Students	Activity
172	Everything
60	Canoeing
42	Horseback Riding
39	Nature Walk
14	Swimming
13	Campfire
13	Trampoline (not available at all camps)
12	Rifle
9	Hayride

Five or less students indicated what they liked most:

- Archery
- New friends
- 6-mile walk
- Leg wrestling
- Cabins
- Farm
- Pillow fight
- Night hike
- Drawing pictures
- Basketball
- Swinging vines
- Sleeping in the bunk bed
- Arts and crafts

Indications are that canoeing and horseback riding activities should be included at all camps for the Houston Independent School District.

Question 11: What did you not like at camp?

These responses by the students are rank ordered from most often listed.

Number of Students	Activity
208	Nothing (indicating the student liked the entire camp experience)
12	Walk a lot
11	Arts and crafts
7	Nature walks

Five or less students indicated what they liked least.

- Running a lot
- Six-mile hike

Casting

Riflery

Fishing

Horseback riding

Separated from friends

Swinging on vines

Had to go home

Snake

Food

Go to bed earlier than at home

Hayride

Pond study

Beds too hard

Football

Waiting in line for food

Sleeping

Rain

Hot weather

Trampoline

Sixteen students indicated that they did not like the hikes and/or long walks. This indicates that the nature walk for students should be half a mile or less with rest stops and informal presentations of the current surroundings.

The Houston Outdoor Education Department has watched the progress of this project very closely. A report of the summary and findings has been presented to the District.

EVALUATION

The criteria for evaluating this Maxi-II practicum are the degree to which the three stated objectives are met.

The first objective was met by the actual selection of the outdoor sites and administering a questionnaire to administrators and to personnel using the sites. This questionnaire determined the adequacy of the site and activities carried out.

The second objective was met by the preparation of the guide and its dissemination to administrators and camp counselors of the Houston Independent School District (See Exhibit F).

The third objective was met by the administration of the attitudinal modification measurement to fifth grade students and the report of the resulting data. A more detailed explanation of the data is found in the Analysis of Data, pages 13 through 29.

FURTHER APPLICATIONS

In the opinion of the writer, advisory committee, and members of the Houston Independent School District, the Outdoor Learning Centers will be of more value in future years as a result of this planning and testing.

The following recommendations are a result of the analysis of data. Based upon a collection of all the data, the following recommendations have been made to the Houston Independent School District.

Attitudinal measure should be readministered to the same experimental group of students during the next academic year.

Nature walks should be less than one-half mile for students in elementary grades with rest stops and informal presentations on the current surroundings.

Opionnaire should be completed by parents whose children have been on the camping experience. This will sample parents' attitudes toward the program.

Copy of the curriculum guide should be given to the principal of each participating school.

Instructional program for the outdoor learning camp should include information exploring careers that are related to outdoor education.

Teachers' roles at the outdoor camp must be clearly defined by Houston Independent School District and communicated to the camp counselors and teachers.

Teachers' surveys should be conducted periodically so as to give input on the effectiveness and possible improvement of the program.

Advisory Committee visits to each camp should be made each year.

Curriculum revisions and modifications of the facilities should be a continuous process through continued evaluation of programs, facilities, and the needs of students.

The information which has been collected as a result of this practicum will be used by the writer in working with other educational groups throughout the State.

EXHIBITS

A. The Goals for Public School Education in Texas

B. Letter of Request from the Houston Independent School District

C. List of Advisory Committee

D. Checklist for Campsites Selected

E. Description of Campsites Selected

F. Curriculum Guide

G. Teacher's Questionnaire

H. Bibliography

I. Student's Attitudinal Questionnaire

J. Changes in Students' Opinions on the Pre-test to Post-test and Pre-test to Post-Post-test

K. Graphic Illustration of Answers from Experimental and Control Groups of Students

EXHIBIT A

Texas school children and adult students are entitled to the best possible education that planning, experience, and effort can devise.

This educational guarantee is the underlying philosophy clearly defined in the text of the

Goals
For Public School Education in Texas.

The Goals were adopted by the State Board of Education in October, 1970. Since that time, they have been revised twice.

First revised in April, 1973, the Goals included appreciation of cultural, language, and life style diversities created by the multicultural population of the state. Revised again in October, 1975, the Goals now recognize the importance of safety as an integral part of physical and environmental health.

By Board policy, the Goals will again be reviewed in 1977 to ensure that they keep pace with changing conditions in Texas and the needs of students in the state.

Goals

For Public School

Education in Texas

I. STUDENT DEVELOPMENT

The public schools should help each student to develop personal knowledge, skills, and competence to maximum capacity, and to learn behavior patterns which will make each a responsible member of society. In terms of their individual ability, all students should achieve:

A. Intellectual Discipline

1. Knowledge of the traditionally accepted fundamentals, such as reading, writing, and arithmetic in the early elementary grades, accompanied by studies in higher mathematics, science, history, English and other languages, as they progress through the upper grades. These should be accompanied by a wide variety of optional courses.
2. Skill in the logical processes of search, analysis, evaluation, and problem solving.
3. Competence and motivation for continuing self-evaluation, self-instruction, and adaptation to a changing environment.

B. Economic and Occupational Competence

1. Knowledge of the fundamental economic structure and processes of the American system and of the opportunities for individual participation and success in the system.
2. Occupational skills prerequisite to enter and advance in the economic system and/or academic preparation for acquisition of technical or professional skills through post-high school training.
3. Competence in the application of economic knowledge to practical economic functions such as planning and budgeting for the investment of personal income, calculating tax obligations, financing major purchases, and obtaining desirable employment.

C. Citizenship and Political Understanding and Competence

1. Knowledge about comparative political systems with emphasis on democratic institutions, the American heritage, and the responsibilities and privileges of citizenship.
2. Skill for participating in the processes of public and private political organizations and for influencing decisions made by such organizations.
3. Competence in judging the merits of competing political ideologies and candidates for political position.

D. Physical and Environmental Health, Ecological Balance, and Safety

1. Knowledge about the requirements of personal hygiene, nutritional consumption, and physical exercise essential to the maintenance of personal health. Knowledge about the dangers to health from addiction to harmful practices or consumption of harmful materials.
2. Skill in sports and other forms of recreation which will permit life-long enjoyment of physical exercise.
3. Competence in recognizing and preventing environmental, ecological, and health problems.

4. Knowledge and experiences to provide information and develop values needed to perform daily activities free from injury or other losses.

E. Appreciation of Culture, Language, and Life Style Diversities and Their Corresponding Aesthetic Values

1. Knowledge of the art, music, literature, drama, and other culturally related forms of various culture groups and their contributions.
2. Knowledge and competence in at least one of the major languages of the state other than English and an understanding of bilingualism.

F. Competence in Personal and Social Relations

1. Knowledge about basic psychological, sociological, and cultural factors affecting human behavior.
2. Skill in interpersonal and group relations, and in formation of ethical and moral standards of behavior.
3. Competence for adjusting to changes in personal status and social patterns.

G. Use of Leisure Time

Competence and skill in creative and responsible use of leisure time.

II. ORGANIZATIONAL EFFICIENCY

The Public School System of Texas should be organized and operated so that the public, faculty, and students will accept and support its objectives and processes.

A. The learning process should take into consideration the personal goals of every student and should be designed so that each can achieve the educational standards of the system and be encouraged to remain in school until ready for a post-high school career.

B. Professional faculty members should be consulted in the decision-making processes for implementing the educational goals of the system and determining the environmental conditions in which they work.

C. The personnel program of recognition and rewards should be designed to attract and retain highly competent people.

D. The educational system should be organized and conducted so as to achieve maximum cost-benefit results from efficiences in process and economies of scale within size limitations which will make units of the system responsive and accountable to parents and citizens.

III. ACCOUNTABILITY

A program of continuing planning and evaluation should be established for measuring the performance of the public school system in terms of the competence of its staff, the performance of its pupils, and the efficiency of its structure and processes.

Adopted October, 1970
First Revision April, 1973
Second Revision October, 1975

Spring 1976

State Board of Education

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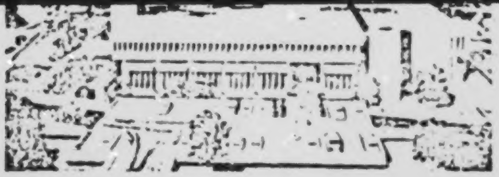
M. L. Brockette
Commissioner of Education

Alton O. Bowen
Deputy Commissioner
for Administrative Services

L. Harlan Ford
Deputy Commissioner
for Programs and
Personnel Development

EXHIBIT B

Houston Independent School District
3830 RICHMOND AVENUE • HOUSTON, TEXAS 77027
AREA CODE (713) 623-5011



MEMORANDUM

DATE:

TO: Area Superintendents and Principals of Briargrove, Durkee, DeZavala, Nat Q. Henderson, Mading, Rusk, and Stevenson Elementary Schools

FROM: W. Lou Shields, Assistant Director
Outdoor Education Centers

RE: Evaluation of Outdoor Education Program

During the Spring semester 1976, Mr. Joe Huckestein, Texas Education Agency consultant, will evaluate the effects of the Outdoor Education program in HISD. Mr. Huckestein's evaluation will be based on a randomly selected group of students who will participate in programs at the outdoor sites and a randomly selected group who will not participate in the program. The latter group will serve as a control group.

The study will attempt to: 1) determine what environmental understandings the students have before attending camp, 2) determine what results are observable at the end of the first month after the experience, and 3) determine what carry-over information is measureable at the end of school (which will be approximately two months after the first contact with a school).

In order to obtain the proper sample and number of students required, all of the fifth grade students in your school have been selected for this evaluation. The testing will be conducted by Mr. Huckestein or Mr. Darrell Butler, Instructional Specialist, on three different occasions. Each test can be administered in approximately ten minutes and may be done in a large group setting or in each classroom. This method is left to the discretion of the principal.

The responses will in no way reflect on your school as the total number of students will be recorded from all schools involved in the evaluation. However, this information can be made available to you if you desire.

The dates which have been set for these tests are as follows:

February 23-26, 1976
March 29-31, 1976
May 24-26, 1976

If, for any reason, there should be a conflict in our scheduling of your school for these tests for at least 10 to 30 minutes during each mentioned time, please let this office know so that an alternate time can be established.

We will be in contact with your school to determine a specific time within the next few weeks. If you have any additional questions, please call me at 623-5546.

Your cooperation in this project is appreciated.

W. Lou Shields
W. Lou Shields
Assistant Director
Outdoor Education Learning Centers

WLS:mjb

APPROVED:

John Brandstetter
John Brandstetter
Acting Assistant Superintendent
QIE Administrative Task Team

John Codwell
John Codwell
Superintendent for Instruction

Gonzalo Garza
Gonzalo Garza
Deputy Superintendent
General Instruction

EXHIBIT C

List of Advisory Committee

Dr. Audean Allman
Assistant Professor
Texas Southern University
Houston, Texas

Mr. Paul McGee, Supervisor
Houston Independent School District
Oceanography Center
Houston, Texas

Mr. Courtney Parks, Principal
Berry Elementary School
2310 Berry Road
Houston, Texas

Mrs. Lou Shields, Director of
Environmental Education
Houston Independent School District
3830 Richmond
Houston, Texas

Mr. Kelly Sigler, District Ranger
U.S. Forest Service - Raven Park
New Waverly, Texas

Mr. Bill Story
Director of Science
Texas Education Agency
Austin, Texas

Dr. Joseph Strehle
Director of Programs & Planning
Region IV Education Service Center
Houston, Texas

EXHIBIT D

CHECKLIST FOR CAMP SITES

Name of Committee member____

Date_____________________

Location of Camp____

Number of acres___________

Maximum number of students who can be accommodated________

Adequate living accommodations for 120 students_________________________

Adequate facilities for teachers and parents____________________________

Adequate classrooms (12)____

Adequate food preparation and service___________________________________

In your opinion, does this site have adequate facilities to implement curriculum?

	YES	NO
Nature Trail	________	________
Geology Hike	________	________
Boating	________	________
Swimming	________	________
Pond Study	________	________
Health Care	________	________
Horses	________	________
Model Farm	________	________
Rifle Range	________	________
Archery	________	________

Comments:____

____

____

____

EXHIBIT E

CAMP MANISON - A HOUSTON PUBLIC SCHOOLS OUTDOOR LEARNING CENTER

CAMP MANISON was founded by its present owner, Mr. Tom Manison, in 1947. Originally the camp was located at a site on Trinity Bay in Baytown, Texas and was moved to its present location in 1958.

CAMP MANISON is between Houston and Galveston at the intersection of FM 518 and FM 528 (which is NASA Boulevard). East of the Gulf Freeway (I45), the highway is designated NASA Boulevard and west of the freeway it is designated FM 528. Camp Manison is only five miles from NASA's Manned Spacecraft Center (Johnson Space Center); or two miles south of Friendswood, Texas. Highway 528 connects Webster and Alvin, and highway 518 connects League City and Pearland.

The camp site is on a beautifully wooded 175 - acre tract of land. All permanent facilities are air-conditioned for summer weather and heated for winter weather. The permanent facilities include the following: dining hall, recreation lodge, medical clinic, three separate bunkhouses for up to 175 people, seminar center with 5 modern meeting rooms.

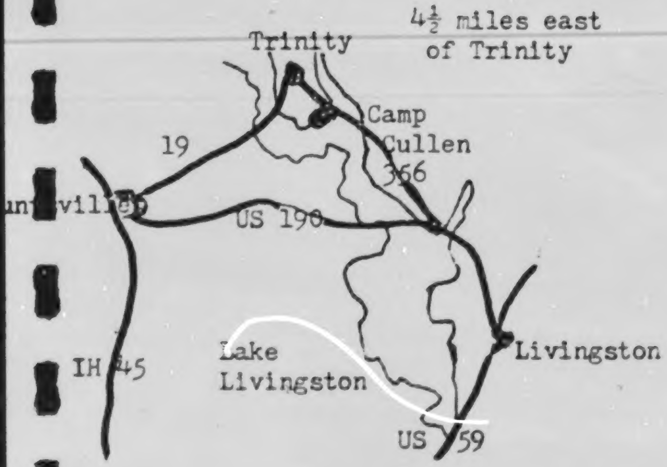
Additional facilities include a large, heated swimming pool, a covered area with 10,000square feet, barn and corral for a stable of 40 horses, a caretaker's cottage, Bar-B-Que house, maintenance shop and storage area, tennis courts, and permanent site areas for a broad athletic/sports program.

Forty acres adjoin the immediate facility area of Camp Manison with plenty of woods, a creek, and a small lake(pond). The camp has a total of three stocked ponds for fishing. There are many horseback trails. There is a vast acreage for tractor-drawn hayrides both day or night. Campfire areas are plentiful.

Activities scheduled for the Camp Manison Outdoor Learning Center include: Nature Walks(geology, pond study, animals, trees and plants, birds, insects), Arts and Crafts, Horseback Riding, Swimming and Diving, Hunter Safety, Archery, Pioneer Arts and Outdoor Skills, Cook Outs, Athletics, Tennis, Trampolining, Hayrides, Fishing, Campfires.

Camp Cullen

Box 1111 Trinity, Texas

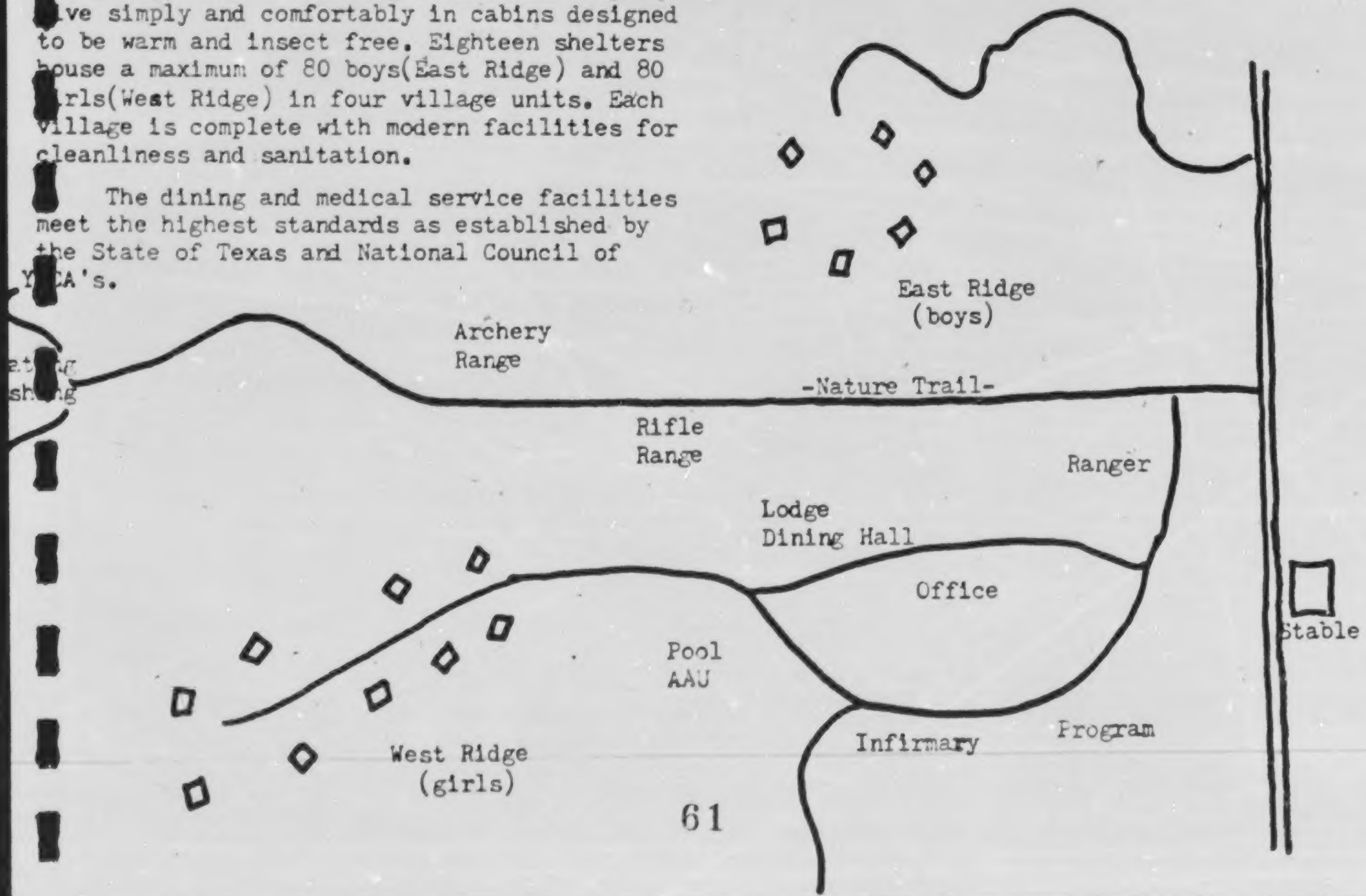

4½ miles east of Trinity
Trinity
Camp Cullen
19
366
untsville
US 190
IH 45
Lake Livingston
Livingston
US 59

The exciting experiences at camp have a special magic at Camp Cullen. YMCA Camp Cullen is located on 482 acres of heavily wooded hills on lake Livingston. The buildings and program facilities are designed for fun, learning, and safety.

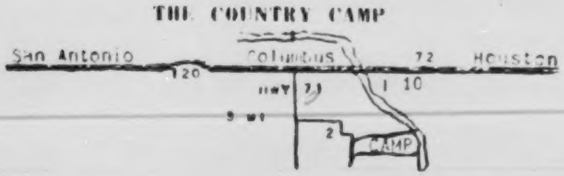
A typical day at camp would include: horseback riding along beautiful forest trails, sailing out on the lake, hitting the bullseye on a National Rifle Association range,paddling a canoe, fishing off the pier, hiking and ecology study. Cabin and village programs are planned to provide experiences such as **roasting** marshmallows singing, andsharing stories around a campfire.

The staff is a carefully chosen and trained group of adults and college students. Campers live simply and comfortably in cabins designed to be warm and insect free. Eighteen shelters house a maximum of 80 boys(East Ridge) and 80 girls(West Ridge) in four village units. Each village is complete with modern facilities for cleanliness and sanitation.

The dining and medical service facilities meet the highest standards as established by the State of Texas and National Council of YMCA's.


East Ridge (boys)
Archery Range
-Nature Trail-
Rifle Range
Ranger
Lodge Dining Hall
Office
Stable
Pool AAU
Infirmary
Program
West Ridge (girls)

The Country Camp and Recreation Area
Columbus, Texas



The Country Camp is designed to nurture the educational and physical development of children and young adults through a well-planned program emphasizing athletic activities, personal health and well-being, creative leisure time activities, career awareness, and environmental protection projects.

The Recreation Area is a facility for use by the public for boating, fishing, mini-trail biking, camping, environmental awareness and hunter safety. The Recreational Area includes the camp facilities and will be open to the public during weekends within the school year, special summer weeks, and holiday weekends. Deer, duck, and goose hunters will find the facility located in the center of an excellent hunting area. Fishermen will find gravel pits stocked with bass and catfish.

The physical facilities include a new dining hall with seating for two hundred, with a modern, well-equipped kitchen, dormitory space for one hundred and fifty, an administration building, a model farm and barn, a wooden barn for indoor activities, a greenhouse and workshop, and a spacious, well-insulated infirmary and medical center.

The program at Country Camp and Recreation Area aims to guide the camper toward fine skills, good sportsmanship, and self-expression. The athletic activities encompass archery, baseball, basketball, canoeing, fishing, riding, water skiing, swim instruction, tennis, and approved hunter safety course instruction. Cultural activities include campfire, environmental studies, crafts, nature study, Indian lore and opportunities to select and develop hobbie's related to the outdoors such as painting, photography, music, and collection of artifacts.

The Country Camp and Recreation Area selects its staff with care. Maturity, experience, interest and knowledge of children and young adults are necessary qualifications. Our professional staff is chosen from elementary, high-school and college faculties and our counselors are college people.

At Country Camp and Recreation Area, we hope to provide an exciting, fulfilling experience in the great outdoors for all involved. We hope to do this through recognition of what nature provides and the wise use of its natural resources.

"A touch of nature makes the whole world kin."

Shakespeare

EXHIBIT F

CURRICULUM FOR OUTDOOR EDUCATION

May 30, 1976

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OVERVIEW

Approximately 9000 fifth grade children will attend one of three camps for a two-day, one-night experience. Students will be selected from schools which are 90% + Black, Brown, or White. These 9000 students will be 40% Black (48), 20% Brown (24), and 40% White (48).

At camp, students will be in groups or teams of 10 each using the same ethnic goal as that of the district.

The staff will be comprised of an assistant coordinator, a site specialist, and 12 counselors/instructors who are well trained in the field of environmental and recreational studies. Teachers and parents will be encouraged to accompany the students to the campsites.

Students will be provided outdoor experiences which cut across all disciplines and will include only those activities which could not be included in a regular classroom setting.

The outdoor education program allows for an instructional setting providing for a meaningful experience of the out-of-doors and the excitement of discovery by student involvement.

OBJECTIVES OF THE OUTDOOR EDUCATIONAL EXPERIENCE

General Objective: As a result of the interaction of the students and their close association with nature, the students will:

.. acquire an appreciation for the environment

.. acquire respect for their fellow peers regardless of personality or varying ethnic backgrounds

Specific Objectives:

- The students will be able to recognize the complex nature of the earth and the many changes that it has undergone.
- The student will develop an awareness of man's relation to the earth and find joy in the simplicity of nature.
- The students will be able to devise specific conservation techniques which will aid in the preservation of our natural resources for our presnet and future existence.
- The students will be made aware of the interrelationships of living things with each other and with their physical environment.
- The students' interests in the everyday phenomena in their environment will be broadened, thus enabling them to interpret events happening around them.
- The students will be given opportunities for personal achievement and self expression in the creative arts, science, dance, and skills related to the outdoors.
- The students will gain practice in decision-making.
- The students will develop self-confidence
- The students will derive from all activities, such qualities as voluntary group participation, cooperateive attitudes, good citizenship, and the ability to participate in all areas, in a sportsman-like manner.
- The student will learn of real-life situations through problem solving.
- The student will become aware of careers that are related to the out-of-doors.
- The students will be provided personal involvement with boys and girls of different income brackets

- The students will learn to respect persons of other religions, races, religions, and cultures.
- The students will develop responsibility for oneself and others.
- The students will be provided an ideal learning climate.

VALUES OF OUTDOOR EDUCATION

Out-of-classroom learning has a way of producing numerous gains. In the free atmosphere of the outdoor laboratory, unrestricted by the formalities of the schoolroom, pupils frequently view their teacher for the first time as an honest-to-goodness human being.

The primary value of outdoor classroom learning is that teachers and pupils have larger blocks of time (without the usual "in-school interruptions") to come to grips with subject matter in some depth. Outdoor laboratories provide what may be considered almost the ideal academic setting--free of the usual interruptions, providing learners the framework for intensive study.

Learning in these real-life situations is through problem solving. It is the way most people learn outside the classroom. Problem solving enables the learner to struggle with basic concepts fundamental to real understanding of subject matter content.

The classroom, when extended into the outdoors, provides the setting in which pupils may enjoy the pure thrill of discovery along with the excitement of learning. The learner is able to replicate and experience for himself the procedures and processes through which some of man's most significant discoveries of science, aesthetics, pioneer life, and the pupil have made.

Outdoor education can make use of and develop all of the senses. Outdoor education, wisely used, provides unlimited opportunities to practice the precise seeing, hearing, feeling, tasting, and smelling that leads to more effective multisensory learning, and to the learner's concepts of the world about him. Thus, the learner begins to realize and to be motivated by the pleasure inherent in learning itself.

Learning by exploration and discovery takes time. Careful investigation of the various observable clues provides practice in a method of answer-finding that a pupil can use by himself. This outcome can never be achieved by just telling the answer. Outdoor education experiences lend themselves to exploratory learning and to the inquiry process of learning.

ROLE OF THE ADMINISTRATOR

The administrator has the responsibility of selecting a fifth grade teacher who has some knowledge, or a willingness to learn, about the out-of-doors. The administration should choose a teacher who can participate in an in-service at the campsite prior to working with the students in outdoor-related activities. The administrator will facilitate and expedite the teachers' work with the students. The administrators will make arrangements for students in the teachers' class who have not chosen to attend the camp experiences.

If at all possible, the principal should plan to attend the inservice with the teacher and as much of the actual camp experience as possible.

THE ROLE OF THE TEACHER

The teacher is the prime factor in making the outdoor experience a success for the child. It is anticipated that the teacher will plan to accompany the class on the outing. The responsibilities will be minimal relative to teaching. However, she/he will be expected to assume the full responsibility for the students until they arrive at camp and have been received by the counselors/instructors. The teacher will then assist in the overall management of the students but will not be expected to teach classes.

Preparation by the teacher should begin approximately six weeks prior to the camp experience. The duties of the teacher in order of performance are as follows:

1. Attend teacher inservice
2. Use materials received from the outdoor education project to stimulate interest and prepare the student. Use other information from other sources so long as it is pertinent and will meet the needs of the students
3. Send permission slip and health form to parents
4. Hold informational meeting with parents to view filmstrip of the campsite and related activities
5. Show filmstrip of the campsite to students who will be attending
6. Plan activities for use on the bus
7. Deliver students to the camp counselors/instructors
8. Assist camp counselors/instructors in student management

*9. Take pictures to be shared on return to school

10. Assume responsibility for students on returning bus trip
11. Conduct follow-up activities

*Optional

12. Hold parent conference to apprise parents of total activities and show film.

TEACHER'S INSTRUCTIONS

After the teacher and class have been chosen to participate in the outdoor camp program, he/she should begin to prepare the students for the experience. The filmstrip should be shown students and parents, and permission slips completed. Other activities which will enhance the student's learning are included on page (Field Trips). The teacher is strongly urged to attend the weekend inservice.

Prior to the outdoor camp experience, the classroom teacher should involve the students in activities which will begin to familiarize them with the kinds of activities in which they will participate during the outdoor setting. The suggested activities listed here may be used. This is not a complete list and may include activities which the teacher feels would be appropriate.

The rules and regulations given on page should be discussed with the students prior to departing for the bus.

Games for bus travel have been included and may be effective in making the bus ride more enjoyable.

A SUGGESTED NOTE TO PARENTS

Dear Parents,

An invitation is extended by the Houston Independent School District to your child ________________________ to attend a ____ day, ____ night expense-paid camping experience at ______________________________, ______________, Texas. Camp ________________ is located approximately _____ miles from our school. There will be a variety of activities that will aid in your child's social, intellectual, and physical growth.

We will be able to accommodate a limited number of students. Early return of your permission slip assures the student of being selected. Several teachers and parents will be volunteering to accompany this group of students. If you have a desire to be one of these persons, please notify the principal or your child's teacher as soon as possible.

The District has planned a well-rounded program for your child. Some of the activities will include: nature and environmental studies, swimming, crafts, art, horseback riding, canoeing, fishing, hunter safety, archery, bird study, rock and geology hikes, insect study, astronomy, forest study, soil study, survival, outdoor skills, pioneer life and tools, and outdoor classroom activities.

The staff at the camp will consist (in minimum numbers), 12 counselors/instructors, an on-site director, an on-site coordinator of activities, four classroom teachers, a nurse, and other regular as well as special resource persons. There is a doctor on 24-hour call at each campsite.

HOUSTON INDEPENDENT SCHOOL DISTRICT
PERMISSION FORM

AND

WAIVER OF LIABILITY
OUTDOOR EDUCATION LEARNING CENTERS
MAGNET SCHOOLS
1976

Name of Student__________________________________ Grade___________

Birthdate____________________Race__________School______________

Parent/Guardian___________________________Home Phone___________

Address____________________________________Work Phone___________

Teacher's Name___________________________School Phone___________

Principal's Name__________________________Principal's Phone________

I hereby give permission for my child to participate in a bus trip to: (one site should be circled.)

1. Camp Cullen, Trinity, Texas
2. Country Camp, Columbus, Texas
3. Camp Manison, Friendswood, Texas

I understand that my child will be leaving the school on:_____________ _________________, and will spend _____nights at the center, and return to school on _____________________, by the end of the school day.

I certify that my child is in good health and can participate in all normal activities of the group. THE NURSE AT THE CENTER SHOULD BE MADE AWARE THAT MY CHILD HAS THE FOLLOWING MEDICAL CONDITION:______________

____

I hereby release the Houston Independent School District and all of its employees and agents from all liability to me or my child in the case of accident, injury, or illness while my child is on this educational trip.

I also authorize the calling in of a doctor and/or the providing of other necessary medical service at my expense should the supervisor of the activities determine it is necessary.

Signature of Parent/Guardian	Date

*This form should be returned to your child's teacher as soon as it has been signed, and MUST accompany the student to the Outdoor Learning Center.

A SPECIAL MESSAGE TO FIFTH GRADERS AND THEIR PARENTS

Why Outdoor Education?

The world outside your classroom is beautiful, exciting, and important to the quality of your life today and in the future. You need to enjoy it and take care of it. Outdoor education can help you learn how to do both.

Outdoor education is not a separate subject. It is a way of using the world outside the classroom to learn more about the subjects you are already studying.

Why should you study your regular subjects in this new way? You will think of many reasons during this school year. Your school leaders think the following reasons are important.

1. Using the out-of-doors as a classroom can be an exciting way to learn more about all of your school subjects.
2. While learning by doing things in your "outdoor education classroom," you will have the opportunity to enjoy the beauty to be found in our world.
3. Many activities will help you learn more about the wonderful natural cycles that affect your everyday life.
4. You will have the opportunity to develop a better understanding of the importance of each kind of plant and animal in maintaining an ecological balance.
5. Some activities you will want to try by yourself and others you will do with your classmates so you can learn both to work alone and to work with people.

6. You will learn many things you can do to help improve your environment.
7. You will become a citizen who is well informed about environmental problems, and the world needs informed citizens.

Your teacher will help you plan and carry out many outdoor education activities in the classroom, on the school grounds, and in the neighborhood. In addition, as a fifth grader, you will have an opportunity to visit at least one of the Outdoor Learning Centers of the Houston Public Schools.

When you go with your class to the HISD, Magnet School, Outdoor Learning Center, you will see and do things that perhaps up to now you have only read about or heard about or seen in films, movies, television or some other audiovisual means. At an Outdoor Learning Center, and in all of your outdoor education activities, you can have fun while you learn.

SUGGESTED ACTIVITIES TO BE CONDUCTED BEFORE CAMP EXPERIENCE

These are preliminary activities to be conducted on the campus prior to the camp experience. These may also be used as a follow-up by the classroom teacher after the camp experience.

Objective: The students will actively participate in activities preparing them for indepth outdoor and environmental studies.

Activities:

. Divide the students into groups of three or four. Do a survey of all the kinds of plants on the school property (or a designated area). Listing by name can be optional. It can simply say the number of each plant with a description.

- Divide the class into groups of three or four. Dig up soil where it is barren. Compare the soil. Students can make deductions.
- Take the class or group and let them become familiar with one tree. Observe its trunk, twigs, branches, and leaves. Compare with other trees.
- Take a census on the school ground to see how many different kinds of animals can be found. (This should include insects, birds, etc.)
- Take the students on a walk. Divide them into work teams. Each team should find the following: hairiest leaf, smoothest rock, roughest twig, something cool, something warm, something bumpy, something wet, something dry.
- Take a color hike. Look for different shades of green in nature. If it will not damage the environment, bring samples to class and arrange them according to lightest green to darkest green. Find and describe things that are yellow, pink, brown, and gray.

RULES AND REGULATIONS CONCERNING CAMPING TRIP

It is the responsibility of the teacher to be sure that each student understands and obeys the following safety rules.

1. Do not hang out of bus windows.
2. While bus is in motion, students are to remain seated.
3. Students should be completely silent when bus comes to red light or stop sign.
4. Do not stand up until bus comes to a complete stop.
5. Wait for signal from an adult leader before unloading the bus.
6. Do not stray away from camp area without permission and/or supervision.

7. Sports and physical activities should be played as safely as possible under the supervision of an authorized instructor.

8. Report to your assigned counselor any problems or concerns that you may have during your camping trip.

9. Have a nice experience and remember to respect the rights of others.

GAMES FOR TRAVELING FUN

It is suggested that the teacher choose one or more of the following activities for use while traveling to and from the campsite.

License Plates. In this game, all students watch the license plates of the cars traveling on the road. Whoever can find the license plates which represent the state farthest away during the entire trip is the winner.

A-B-C. This is a road sign game. Pupils sitting on the left side of the vehicle team up to watch all the signs that appear on the left side of the road. Students sitting on the right side of the vehicle team up to watch all the signs that appear on the right side of the road. Each team tries to find the letter "A" first, then "B", "C", "D", etc. going straight through the alphabet. Whichever team manages to get to the letter "Z" first is the winner.

"When I Go Camping, I'll Take...." This is a memory game. The first person says, "When I go camping, I'll take...." and then he names something such as a suitcase. The next person repeats the line the first person said, then he mentions another item he will take, such as pajamas. The third person repeats the lines and words of the other two students and adds his own suggestion. The game continues with everyone repeating in order what everyone has said, then adding on another word. Anyone who forgets one of the words is out of the game. The person who remains in the game the longest is the winner.

JOB DESCRIPTION OF
THE CLASSROOM TEACHER ON THE CAMPSITE

On the campsite, the classroom teacher will:

1. Assume guardian role of student from his/her class from the home school
2. Provide counseling for students with problems
3. Take pictures of their students for use back at school

JOB DESCRIPTION OF ASSISTANT OUTDOOR COORDINATOR

The Assistant Outdoor Coordinator will:

1. Select schools to participate in the program.
2. Order materials and supplies for all three facilities.
3. Arrange for inservice teachers
4. Assist in the development of curriculum
5. Maintain quality programs
6. Work with site coordinators
7. Conduct orientation sessions for total group

JOB DESCRIPTION OF SITE SPECIALIST

The Site Specialist will:

1. Schedule students into activities
2. Assist in instructional program
3. Provide training for counselors/instructors

4. Plan and conduct inservice for teachers
5. Assist Assistant Outdoor Coordinator in duties when requested
6. Visit schools
7. Update curriculum
8. Have periodic meetings of the site specialists from all three camps so as to interact regarding students and program.

JOB DESCRIPTION FOR COUNSELOR/INSTRUCTOR

The counselor/instructor* will:

1. Assume the responsibility for a maximum of ten students during the camp experience from 10:00 a.m. Monday until 2:00 p.m. Wednesday and from 10:00 a.m. Thursday through 2:00 p.m. Friday.
2. Be proficient in teaching at least two different activities for outdoor lessons and two different activities for inclement weather
3. Be proficient in orienting students to campsite
4. Provide meaningful cookout experience
5. Work with site specialist
6. Confer with teachers when necessary
7. Counsel with students when necessary

*Due to the length of this assignment, the person in this role may change while in charge of a group of students; however, students must never be left unattended and a smooth transition between counselor/instructor is necessary.

GENERAL INSTRUCTIONS

The activities planned for use at the campsite have been chosen to give the student a variety of experiences. It is suggested that plans be closely followed.

Students who are kept busy with activities will create little or no problems for the group. Consequently, all activities should be well planned and organized. Poor planning can cause much lost time and wasted teaching effort.

If at any time inclement weather prevents activities in the out-of-doors, instructors/counselors should move into activities which will provide maximum growth of the learner in environmental awareness and improvement of human relations and interaction skills. To accomplish this, each instructor/counselor should be proficient in two outside teaching assignments for clear weather and two indoor teaching assignments for inclement weather.

Each counselor/instructor will be expected to work with students informally in the improvement of human relation and human interaction skills, conduct an orientation session in the dorm immediately following the general orientation, and provide a cookout for their group during one evening session. At the end of each session, evaluate your progress and that of the student to be sure you have met your objectives. Base each subsequent lesson upon what you gain from each experience and evaluation.

OUTDOOR CLASSROOM ON A RAINY DAY

Rainy Weather Plans

The following activities may be conducted indoors. When inclement weather prevents classes from being held as planned, this immediately calls for a shift in classes. Instructors will have the same students in a classroom and work on a similar program which can be accomplished to a limited degree.

ENVIRONMENT/HABITATS

I. Ecological Systems: energy flow and materials, food webs, populations, etc.

   A. Resources - land, sea, air

   B. Pollution - land, sea, air

   C. Society

II. Plant Kingdom

   A. Explain photosynthesis

   B. Identify plants in the area - talk about State plant, flower

   C. Plant communities

   D. Identify trees, shrubs, vines, flowers, etc.

      Projects: leaf prints, seed collection, plant a tree, terrarium

   E. Measuring trees (rings). How old are they?

   F. Different kinds of pine cones

III. Animal Kingdom

   A. Identify insects in the area

      1. Study insect groups

      2. Anatomy

      Project: collect for display, learn collecting and mounting techniques

   B. Identify local fish

      1. Anatomy

      2. Learn how to clean fish for cooking

   C. Identify reptiles and amphibians

Salamander	Turtle
Frog	Snake

Collecting hints page 443, Boy Scout Manual

D. Identify birds

1. Learn why they can fly - bone structure, etc.
2. Best times to go bird watching, pp. 456, Boy Scout Manual
3. Learn how to attract birds
4. Learn what they eat

   Projects: bird sighting log, bird feeder, bird nest

E. Mammals

1. Observation of local animals or learn home (dens, nests, burrows)
2. Learn tracks - make plaster cast or study ones already made

CAMP ACTIVITIES

The following is a comprehensive list of all activities which will be available in one, or all of the outdoor centers.

1. Fishing
2. Hiking
3. Swimming
4. Pottery Making
5. Leather Craft
6. Ping Pong
7. Puzzles
8. Checkers
9. Nature Study Library
10. Volleyball
11. Campfire
12. Hayride
13. Relays
14. Photography
15. Horseshoes
16. Archery
17. Nature Study
18. Treasure Hunt
19. Canoeing
20. Telescopic Observation (Study of Stars)
21. Horseback Riding
22. Geology
23. Related Art Activities
24. Related Craft Activities
25. Weather Study
26. Chess
27. Model Farm
28. Survival Skills
29. Pioneer Life

The following activities are available to students during scheduled sessions or free time. Each instructor/counselor should see that their students are involved at all times.

Swimming

Pottery Making

Leather Craft

Ping Pong

Puzzles

Checkers

Library

Volleyball

Arts and Crafts

Relays

Chess

ORIENTATION

Pass out a duplicated map of the campsite and a schedule for each student. Using an overhead projector, show students where each area is located and how to get to it. Discuss the camp overview, program schedule, safety and responsibilities, and the importance of working in groups or teams as follows:

Camp Overview

a. Personal and camp sanitation (nurse)

b. Show map, give program schedule

c. Safety and the out-of-doors

- to be able to recognize dangerous from non-dangerous snakes and spiders (refer to page 21)

- To be able to recognize poison ivy and other dangerous plants (refer to page 21)
- Use of fire in the wooded area
- To be able to swim or have knowledge of safety rules

Health

a. The importance of clean bodies
b. The importance of good dental hygiene
c. The importance of taking care of cuts to avoid infections

Table Manners

a. Limit your conversation at the table
b. Avoid unpleasant subjects

Diet - Proper and Balanced

a. Proteins; e.g. meat
b. Carbohydrates; e.g. juices
c. Fats; e.g. bacon
d. Calcium; e.g. milk and eggs

Responsibility

a. To oneself
b. To others
c. Personal belongings; medicines, keys, etc.

The Importance of Working in Teams and Groups

a. Man cannot live isolated
b. Communication as a tool
c. Positive attitudes toward others
d. Good sportsmanship

Observing a Snake

If a harmless snake--for example, a garter snake--can be located, have the children move slowly and quietly to observe it. If the snake is handled, it is wise to hold it securely behind the head with one hand and to support the rest of its body with the other hand. One protective device of snakes is a musky, offensive-smelling fluid discharged from glands near the tail. This fluid is not harmful and can be easily washed off.

Observe the slanting teeth, which keep the prey from pulling out of the snake's mouth as the snake gradually swallows it.

Notice how the snake's soft tongue darts out to taste the air. The tongue traps some of the air and carries it to small pockets inside the mouth where the snake's organs of taste and smell are located.

Discuss the four poisonous snakes found in Texas. Show a filmstrip or film of these snakes.

Poison Ivy

Poison ivy can be harmful if a student comes in contact with it. Show slides of poison ivy. Point out the number of leaves on a stem as an identifiable feature. Urge students to avoid these plants.

Spiders

Most spider- are harmless. Only two spiders, the black widow and the brown recruse spider, are dangerous. Students may be shown pictures and/or preserved specimens of these two.

Every effort should be made to assure students that these spiders and snakes are not often seen but that this is a precautionary measure.

SCHEDULE

Monday

Three Day

9:00 - 11:00	To Site
11:00 - 12:00	Orientation
12:00 - 1:00	Lunch
1:00 - 2:00	Session #1
2:00 - 3:00	Session #2
3:00 - 4:00	Session #3
4:00 - 5:00	Free
5:00 - 6:00	Session #4
6:00 - 7:00	Cookout
7:00 - 8:00	Student Selected Time
8:00 - 9:00	Obersvation - Story Time
9:00 - 10:00	Ready for Bed
	Discussion for the Day

SCHEDULE

Tuesday

Three Day

7:00 - 7:45	Make Beds
	Prepare for Break
7:45 - 8:00	Calesthenics
8:00 - 9:00	Break
9:00 - 10:00	Session #5
10:00 - 11:00	Session #6
11:00 - 12:00	Session #7
12:00 - 1:00	Lunch
1:00 - 2:00	Session #8
2:00 - 3:00	Session #9
3:00 - 4:00	Rest
4:00 - 5:00	Session #10
5:00 - 6:00	Free
6:00 - 7:00	Dinner
7:00 - 8:00	Student Selective Activity
8:00 - 9:00	Campfire (Indians)
9:00 - 10:00	Ready for Bed

SCHEDULE

Wednesday

Three Day

7:00 - 7:45	Straighten Dorms
7:45 - 8:00	Warm-Up
8:00 - 9:00	Breakfast
9:00 - 10:00	Session #11
10:00 - 11:00	Session #12
11:00 - 12:00	Culminating
12:00 - 1:00	Lunch
1:00 - 1:30	Prepare to leave
1:30 - 3:00	Enroute to school campus

SCHEDULE

Thursday

Two Day

9:00 - 11:00	To Site
11:00 - 12:00	Orientation
12:00 - 1:00	Lunch
1:00 - 2:00	Session #1
2:00 - 3:00	Session #2
3:00 - 4:00	Session #3
4:00 - 5:00	Free
5:00 - 6:00	Session #4
6:00 - 7:00	Cookout
7:00 - 8:00	Free time
8:00 - 9:00	Observation - Story Time
9:00 - 10:00	Ready for Bed
	Discussion about the Day

SCHEDULE

Friday

Two Day

7:00 - 7:45	Straighten Dorms
7:45 - 8:00	Calesthenics
8:00 - 9:00	Breakfast
9:00 - 10:00	Session #5
10:00 - 11:00	Session #6
11:00 - 12:00	Culminating
12:00 - 1:00	Lunch
1:00 - 1:30	Prepare to leave
1:30 - 3:00	Enroute to home school

Monday	Nature Walk	Pond Study	Arts & Crafts	Horseback* Riding	Swimming*	Canoeing*	Habitats*	Soil* Geology Hunt	Plants* Trees	Stars	Archery*	Riflery*
1 - 2	A	B	C	D	E	F	G	H	I	J	K	D
2 - 3	L	A	B	C	D	E	F	G	H	I	J	H
3 - 4	K	L	A	B	C	D	E	F	G	H	I	J
6 - 7	J	K	L	A	B	C	D	E	F	G	H	K
Tuesday												
9 - 10	I	J	K	L	A	B	C	D	E	F	G	H
10 - 11	H	I	J	K	L	A	B	C	D	E	F	C
11 - 12	G	H	I	J	K	L	A	B	C	D	E	D
1 - 2	F	G	H	I	J	K	L	A	B	C	D	B
2 - 3	E	F	G	H	I	J	K	L	A	B	C	E
4 - 5	D	E	F	G	H	I	J	K	L	A	B	G
Wednesday												
9 - 10	C	D	E	F	G	H	I	J	K	L	A	E
10 - 11	B	C	D	E	F	G	H	I	J	K	L	A

* Required

* Optional

12 Groups

At the conclusion of the orientation session conducted by the site director, the students should be assigned to groups and go to quarters prior to lunch.

GETTING ACQUAINTED

Students should become acquainted with group members as soon as possible after being assigned their counselor/instructor.

Building acceptable social patterns will be an important aspect of the outdoor program. It is expected that this will come as a result of interaction. Where possible, activities which will build social skills, self concepts, and acceptance of others will be included in the program. It is the responsibility of each instructor/counselor to work toward this objective at all times.

Specific activities include inviting resource speakers and interaction activities between students. The following may be used for this purpose. These may also be used as filler time when short activities are needed during the session.

Hot Potato

Get an index card and give it to one student. Have the student pass it on as another student stands with his back facing the class. When the student with his back turned says the words, "Hot Potato," the person with the card in his hand has to stand up in front of the group and tell something about himself. This game continues until everyone gets a chance. Things that would be mentioned are:

Name
Age
Hobbies

Travel
School he attends
Family (number of sisters and brothers)
Any other things one might wish to say

Where Am I?

One student imagines that he is in some specific place, doing something definite. The other students, in turns, ask questions in an attempt to learn where he is and what he is doing. All questions must be answered by "yes," "no," or "I don't know." The place must be at the campsite. Each student gets a chance.

Earthworms

In spring, earthworms of all sizes can be found in moist piles of leaves. Allow the students to examine a likely place. Compare the earthworms in a grassy area and a bare area. How do earthworms help plants? How do plants help earthworms?

Animal Stunts

Have each student to choose a stunt from the list. Each student performs one at a time while the others name the stunts.

Lame Puppy Run
Kangaroo Hop
Seal Walk
Ostrich Walk
Bear Walk
Ape Walk
Chicken Walk
Duck Walk
Frog Walk
Rabbit Hop

Jumbled Observation Lists

Divide the children into two or more groups. Have each group prepare a list of ten living things seen during the outdoor camp experience. As soon as the lists are ready, have the groups rewrite each of the names in jumbled fashion on another sheet of paper. For example, "fish" may be rewritten "hifs." Then, have the group exchange lists and try to decode them within a given time limit.

Scavenger Hunt #1

Leaves are arranged in various ways on the stems of wild plants. Find examples of the following and trace them.

1. Simple leaf
2. Compound leaf
3. Basal leaves
4. Alternate leaves
5. Opposite leaves
6. Whorled leaves

Scavenger Hunt #2

Plant leaves come in assorted sizes and shapes. Find a plant that has each of the following leaf shapes and trace the leaf. Try to find out the name of the plant.

1. Oval shaped
2. Lance shaped
3. Tooth edged
4. Narrow, oblong
5. Tooth edged, with parts deeply cut
6. Growing alternately along a stalk
7. Round, with a scalloped edge
8. Growing opposite along a stalk

Scavenger Hunt #3

A search for a wide variety of natural materials may make up the scavenger hunt. Things which should not be removed from the natural environment must not be included.

Holding the Front

A small group of players hike single file. At short intervals, a challenger points to some object of nature which the hiker in the lead must identify to hold the "front" of the line. Failure to name the object sends him to the end of the line.

The game can be varied by walking in two with the partners deciding on an answer. Another variation is to have the challenger name a nearby natural object that the leading hiker must point out before the challenger can say the name three times.

Shadow Tag

This game is best played when shadows are at least nearly equal to the height of the players. The player who is "It" can tag a player by stepping on his shadow. This player then becomes "It."

The players can become quite skillful in controlling the length of their shadows.

Look Listen Game

Each group is given a look-listen list. This may include a bird call, a frog, a fish splashing, a four pointed leaf, the limb of a pine tree, and the leaf of an oak and a white rock. The instructor/counselor will monitor the group and vouch for the ideas which could not be brought back. At the last meeting prior to leaving, special recognition will be given the group completing their list first.

RECREATIONAL ACTIVITIES

The recreational program at the camp will be flexible. Each group will be allowed to select the games and sports in which they would like to participate.

There will be calisthenics for all each morning prior to breakfast.

Team games will consist of tug-of-war, track events, volleyball, etc.

Other sports requiring parental consent and taught on a scheduled basis will be swimming, boating, canoe riding, and fishing. Other games will include table games such as bingo, password, etc. to be played during free times.

Archery

Objectives: The student will:

1. Be provided with an activity which they can enjoy for a lifetime.
2. Demonstrate established rules of safety.
3. Exhibit knowledge of how to select the proper bow and length of arrow.
4. Be provided opportunities to use skills on an on-site situation.

Suggested Activities

1. Classroom planning how to select proper bow and arrow length and bracing bow.
2. Guest speaker

   Shooting techniques - stance, draw, archery aim release
3. Shooting experiences
   a. target shooting at various distances
   b. clout shooting
   c. field archery

d. archery golf

e. tic-tac-toe archery

f. balloon shooting

Casting and Angling

Objectives: The students will:

1. Become familiar with Texas game fish and methods of catching them.
2. Increase knowledge of laws governing fishing.
3. Be able to identify equipment needed for fishing.
4. Know which fish are found in fresh water and which are found in salt water.
5. Learn good manners for boat and bank fishing.
6. Learn to assemble and pole, line, and accessory items.
7. Learn techniques of fishing.

Activities:

1. Prepare display of Texas fish - magazine photos, plaster casts, drawings.
2. Hear speaker from Texas Parks & Wildlife.
3. See a movie on fishing.
4. Learn how to prepare equipment for fishing.
5. Fly casting
6. Spin casting
7. Level wind reel
8. Practice with real equipment on targets or obstacle courses. Compete for accuracy.
9. Demonstration of how to clean and prepare a fish.

Hunter Safety

(This should be a three-day session. Parental approval must be obtained.)

Objectives: The student will:

1. Demonstrate and explain the function of the basic parts of the rifle.
2. Identify basic types of hunting firearms.
3. Demonstrate knowledge of safety procedures.
4. Learn and practice the ten commandments of shooting safety.

Activities

1. Observe and handle examples of hunting firearms and ammunition for each.
    a. 22 rifle
    b. large bore rifle
    c. shotgun
2. Discuss types of guns used for various game animals.
3. Hear game warden speak on Texas Game Regulations.
4. Actual practice in crossing fences with guns, demonstrate how to transport them in cars, how to carry guns in the field, safe handling at home.
5. Introduction to rifle range, safety rules, procedures.
6. Familiarization with operating a pellet rifle.
7. Learn to sight a rifle.
8. Actual shooting at targets
    a. different positions
    b. target and novelty shoots
9. Reloading demonstration
10. How to clean and care for firearms.

Canoeing

(Boating Safety)

(Canoeing must be approved by parents. Students must have at least three days of instructions.)

Objectives:

1. The student will learn how to use a wading staff and bouyant vest.
2. Learn and be able to demonstrate basic boating principles
3. Be able to identify basic kinds of craft and what they are appropriately used for.
4. Know how weather conditions affect boating safety.
5. Become familiar with Texas boating regulations.
6. Know the required and recommended safety equipment to carry on boats.

Activities:

1. U.S. Coast Guard speaker (importance of safety and knowing how to swim.
2. On-site instruction for boarding and leaving craft.
3. Techniques of paddling
4. Actual practice with canoe, rubber raft, or small boat
5. Games using nautical terms.
6. Bad weather precautions.

Horseback Riding

Objective: The children will learn to saddle and ride a horse. Opportunities will be presented for feeding to teach proper handling, saddling, and riding.

SCIENCE ACTIVITIES

Science activities should include exploring and discovering plants and animals. The children should learn about the great variety of living things around them. They should develop a curiosity regarding their environment and the interrelationship of living things. The science study includes the nature walk, forest environment, a pond study, a study of animal habitats, a study of soils, study of birds, and insects.

Nature Walk*

Objective: (1) To develop an awareness of the natural setting of birds, animals, insects, stones, flowers, and trees.

(2) To find out how things live and grow.

Things to Observe

(1) Birds

(2) Animals - rabbits, squirrels, turtles, frogs

(3) Trees, vegetation

(4) Insects, spiders

(5) Rocks and minerals

(6) Homes of animals

(7) Physical surroundings - sun, clouds, smells and sounds

Before beginning the walk along the nature trail, students should be given explicit directions and guidance.

- follow the leader
- obey signals - "silence," "stop," "gather around"
- use good manners
- stay with the group

* A specific guide is available for each walk.

Birds

Objective: The student will be able to identify birds found in the area of the campsite.

The student will be able to identify the different kinds of bird feet and beaks.

Materials needed:

Overhead projector

Microprojector

Tape recorder

Bird feathers

Slides of bird feathers

Chart of birds' feet, beaks, and nests

Transparency of birds' feet, beaks, and nests

Record of bird calls

Birds of Texas

A Harris Stone The Last Free Bird

Procedure: This lesson will be conducted in a laboratory situation for the first half of the period. From here, the students will move to an area near the bird feeders and houses to observe the birds. Books for identifying the birds should be used at this time.

Activities:

A. Discuss the most common kinds of birds found in the area of the campsite.

B. Study bird's feathers under a magnifying glass or a microscope. Observe the tiny interlocking structures that form cells producing cavities that hold air, making the feather both strong and very light in weight size.

Observe the differences in feathers according to the different parts of the bird's body from which the feathers come and the uses for which they are intended. Some feathers are small and soft and have no central shaft. These feathers are called "down" and help to keep the bird warm. Other feathers have central shafts and are shaped something like fern leaves. They are contour feathers, the ones that cover the body and wings and make up the tail of the bird.

C. Observe the transparancies of the bird feet and beaks. Discuss how each type serves the needs of the birds.

D. Observe the nest of a bird which has been placed in the classroom. Discuss materials found in the nest and its structure. Discuss the different kinds of bird nests.

E. Observe singing birds. Record where the bird sits to sing. Does he sing from one or more perches? Keep track of where each bird sings. Make sure you are watching only one bird. Does the bird appear to have a special territory? Are other birds of his species allowed within his territory?

F. Take a tape recorder into the woods. Listen for the birds. Make a recording of their noises. After returning to the classroom, identify the birds by comparison of the tape with a record of bird calls.

G. Observe birds in the field. Listen for the various sounds of birds and identify them.

Study of Plants and Trees

Objective: The students will be able to identify trees native to the campsite area.

The students will be able to identify plants native to the campsite area.

The students will be able to identify edible plants that were used in pioneer life.

Materials needed:

Overhead projector

Transparencies of trees and leaves

Manila paper

Iron (from laminating press)

Wax paper

Ironing board

Magnifying glasses (hand lenses)

Procedure: Teach children to identify trees by contour, color, leaf, bark, flower, seed, and wood structure. Teach the students what they are used for, how they burn, approximate size when full grown, kind of leaves, fruit, seeds, etc.

Activities:

A. Studying Factors that Influence Tree Growth

As the class walks in the woods, have them study the trees to determine whether their shapes have been affected by objects that obstruct light. A tree may have been overshadowed by another tree or some other object that has restricted its development.

Lead the children to investigate what can cause a tree to lean in one direction or to develop an unusual shape. Consider whether or not the prevailing winds have any influence on the trees along roads or streets. What are the possible effects of poor or eroded soil, of too much water or too little water, of insect or other animal damage, of storm damage, and of injury to the tree's bark or roots.

The discussion may provide an opportunity for understanding conservation and for making children aware of the effect on a tree of damage to roots, barks, or limbs that children may cause.

B. Studying Bark in Identifying Trees

Many children are unaware that after trees have lost their leaves, the various kinds of trees can be identified by their bark.

Plan a walk or hike to enable children to learn about the differences in tree bark by observing it and feeling it. Take time to let the children feel and talk about the smoothness, flatness, or roughness in a certain bark, the arrangement of ridges, and the depth of grooves. Have them note, too, characteristics such as color and texture.

Keep a record of good descriptive words and phrases used by children, and remind and encourage the group to use these words again.

Help the children to compare the barks of two different kinds of trees. Have them try to find trees that have similar bark in different places.

The observation of insects, lichens, and moss on trees will add interest and information to the study of tree bark.

C. Making Clue Charts for Identifying Trees

Identifying trees can be a challenging activity. The shape of the leaf is usually the first clue noted in trying to discover what kind of tree is being observed. As other characteristics are observed, using a clue chart will not only make identification easier, but will also encourage closer observation.

A clue chart is simply a classified record of observable features. Sketches should be made in some parts of the chart. If a complete description of a tree is desired, a column may be provided for additional facts that have been gained in other ways than by direct observation.

D. Investigating the Forms of Stems and Trunks

Children may enjoy looking into the "engineering" in the design of plant stems and tree trunks. What shape do the stems and trunks have? (cylindrical). If they were flat, could they stand up?

Find some leaves of a tree that is a member of the poplar family (poplar, cottonwood, quaking aspen, large tooth aspen) and examine one of the petioles (stems). What shape does it have? (It is long, thin, and flat.) Now observe the leaves on the tree. Does it take much wind to make them move? (No) Why? (The thin, flat shape of the stems offers little support or resistance to movement.)

E. Preparing a Leaf Collection

A science project which will help students to remember the appearance of the leaves from different trees. Have them gather and prepare a collection of leaves. Placing the leaves between two sheets of waxed paper and pressing them with a warm iron can keep them in good condition indefinitely. Leaves preserved in this way make good material for a scrapbook and may be taken back to their home schools.

F. Tree History

Make sketches of trees. Study stumps to learn the life history of the tree, such as its age, injuries, and insect damage.

Grass can be experienced with all our senses. Touch: by feeling its coolness on a hot day, rolling the round stem between thumb and finger, comparing the feel underfoot of pavement, bare ground, and springy turf. Sound: Who can make a grass-blade whitsle? Sight: How many different types of grass can you find? Smell: A few grasses have distinct odors; others smell "green" and fresh if you get close to them, particularly in the cool of the morning or after a rain. Taste: Three common grasses that are safe for nibbling are timothy, foxtails, and orchard grass.

I. Observe Plants in a Nearby Location

Have children observe the general characteristics of the grasses: a single jointed stalk; long, narrow, alternate leaves, each composed of two parts--a blade and a sheath; inconspicuous flowers on a spike; and seedlike fruit. Examples of plants in the group of grasses are corn, Kentucky bluegrass, rice, wheat, barley, oats, and rye.

The children should learn how grasses conserve the soil and how they contribute to food chains. Observations should be made of the ways in which grasses adapt to different environments. And the children should look for and compare the seeds of different kinds of grasses.

J. Studying some Contributions of Weeds

Take the children on a field trip to discover the value of weeds as food for birds and as holder of soil, as well as, eventually, builder of soil.

K. Considering Wild Flower Growth

Discuss with the children the picking of wild flowers. Some of these flowers take six or more years to reach maturity. Picking all the flowers robs a plant of its opportunity to produce seeds. Picking the leaves takes "food factories" away from the plant.

Common violets are an exception, as most of the seeds of these plants are located on small flowers without petals, growing at the base of the leaves. The showy violet blossoms produce few seeds. The children may be interested in making a special study of violets.

L. Inspecting Wild Flowers

Have the children observe the wild flowers that bloom on the grounds. Many of these blossoms are inconspicuous and are easily overlooked. Point out that one dandelion head is really a whole bouquet. Use a magnifying glass to show the individual flowers in the dandelion head. Ask some of the children to count the number of flowers on a single seed head.

Geology Walk

Objective: The students will be able to:

1. identify different kinds of soil
2. observe layers of soil and make predictions about value for plant growth

Materials needed:

Small jars
Soil testing kit

Procedure: Take the children on a walk along a designated area. The trail should take the class by a collecting area where different kinds of soil can be collected, where an excavation has left a vertical area exposed, where evidence of weathering can be observed, and where expansion joints can be observed.

Activities:

A. Have the children collect small gravel, coarse gravel, and several samples of topsoil to take back to the classroom. Mix some of each of these with water and pour the mixture into a glass jar. As the mixture stands and settles, observe that the coarse material settles first, followed by the finer particles, the order being gravel, coarse sand, fine sand, silt, and clay. If there are floating particles, they are organic matter (humus) in early stages of decomposition.

Then have the group investigate a river or stream bed to see whether or not the same kind of settling action appears to take place in the rivers and streams.

B. Studying a Soil Profile

Soil has been produced from rock after countless years of work by the forces of nature. Find a recent excavation at the campsite. You may be able to see a history of that particular soil. If a vertical profile is available but is dried out or covered with some vegetation, it will be helpful to "freshen" it by clearing off an inch or two of material from the top of the bottom of the surface.

What you will see will depend on the location of the profile. In most areas, you will first find some sort of topsoil, usually darker and richer than the layers below it. The darker the topsoil, the more humus is in it. Each successive layer as you go down will probably be lighter in color and more coarse until nearly solid rock appears.

(In some locations, glacial deposits may be quite deep.)

C. Preparing a Soil Collection

Assign the group to make a collection of as many different kinds of soil as can be found in an area. The samples can be taken from a grassy section, a forest, a location near a pond, next a building, near a hard-packed play area, and from other locations. Small jars like baby food jars are a good size to use for this type of collection. Examination of the samples will show many differences.

D. Making Soil

Let the children watch the process of trying to produce some soil by breaking up crumbly rock. For protection against injury, cover the pieces of rock with cloth, or break the rock while it is encased in a cloth bag.

E. Observing Weathering in Rocks

Find places where rocks show evidence of weathering. Discuss with the children the forces of nature that produce weathering--forces such as winged and rain wearing effects, and the heating forces and freezing that causes cracking and breaking.

In this connection, point out that spaces have to be left between sections of cement in sidewalks and highways, between the ends of rails on a railroad, and between sections of bridges to prevent breakage of those structures when the sections expand. Ask the children what causes the expansion.

F. Make Simple Rock Groupings

Children can gain some valuable experiences through grouping rocks by simple characteristics. Keen observation of rock characteristics should be encouraged. Notes may be written by each child, comparisons may be made, and a class list may be worked out for reference in sorting and grouping rocks. Some or all the following rock characteristics may be helpful as items for this list.

G. Testing the Soil

Use the soil testing kit to determine what is needed in the soil of the area.

H. Soil under a Microscope

Study particles of soil with a microscope; spread a thin layer of clear glue on a microscope slide. Sprinkle sandy soil particles on the slide. Examine the slides carefully with a microscope. After examination, make a list of the minerals you identify in each soil type.

Insects

Objective: The student will observe insects and be able to learn distinguishing characteristics of insects, spiders, bees, wasps, grasshoppers, bugs, beetles, moths, and butterflies.

Materials needed:

Hand lenses

Jars

Small white cloth or net

Activities:

A. Investigating Insect Movements

Capture several kinds of insects without injuring them. Let them move about on a piece of paper, and ask the children questions such as these: Do insects always go uphill? Do some go only downhill? How fast can they move? Can you classify them according to their traveling habits?

Insects reveal much about themselves by their movements. A lightning bug will walk uphill until it reaches a high point and then it will fly. Ask the children what they can learn about insects from observing their movements.

B. Watching the Work of Insects (rainy day activity)

Many insects are strong and energetic, and watching them at work can hold the attention of children for long periods. In an outdoor activity, each child should find an insect or a spider (spiders are not insects) and, without disturbing it, take notes on its work. Where did it come from? Where is it going? Does is have work to do? How fast does it move? Can it be turned from its path or distracted from its purpose? (Sticks or other objects should be used here--not fingers. Do any insects work and eat at the same time? If so, what do they eat?

C. Inspecting Snails

Look for the silvery trails of snails along sidewalks, on trees, or on other plants early in the morning. The slimy material that oozes from the snail's foot makes this trail. The children will find it interesting to locate some snails and observe how they travel. They should watch what happens to a snail's foot when the snail moves. (This can be more easily seen if the snail is placed in a glass jar.)

Note that a snail's eyes are on stalks, and discuss the advantages that this eye arrangement gives the snail.

D. Studying Spiders

Have the children observe some spiders. Call attention to the two body segments and the eight legs that differentiate spiders from insects (which have three body parts and six legs.) The way that spiders use their legs in walking may be of special interest to the class.

Have the children observe a spider spinning its web, and see how the spider uses the web for a home, a highway, and a trap for obtaining food. You will need several jars and a handkerchief to use as a net. Pick out one square foot of land. Examine it very carefully to find out how many insects are there. Make a list of those you know. Catch one of each of the insects you do not know and put it in a jar. Take it to the lab and find out its name. Return the insect back to the area where you found it.

Ask the children to carefully examine such habitats as a rotten log, a patch of grass, an area under a rock, or the bark of a tree. List the types of insects found in each habitat. Would insects from one habitat usually be found in one of the others?

E. Observation of Ants

Observe the activity around an anthill. Are ants carrying food? What kind? Do they pay attention to each other? Sometimes when an ant colony is disturbed, the eggs, larvae, and pupae can be seen. Watch nurse ants pick up mouthfuls of tiny white eggs, slender glistening ant grubs, or ant pupae and carry them to safety. Some ants pupate in a papery cocoon. Others have a naked pupa which looks like a white, inactive ant with all parts formed, including legs.

Animals

Objective: The students will be able to identify animals of the woods

Materials needed:

Binoculars

Plaster of paris

Activities:

A. Things to See and Do With Wildlife

A great variety of animals, including squirrel, oppossum, raccon, fox, rabbit, and deer live in the area. Things to do:

1. Follow some animal tracks. See if you can reconstruct the story and tell where the animal was going.
2. Collect animal tracks by making plaster casts or sketching them.
3. Look for animal homes: rock dens, hollow trees, and ground burrows.
4. Look for evidence of what animals feed on: bark stripped from young trees, empty nut husks, and ground diggings.

Can You Find Out?

1. What kind of tracks do deer, rabbits, and raccoons make?
2. What kind of homes do these animals live in?
3. What do they eat?
4. How do they spend the winter?

B. Exploring Different Animals' Habitats

In a discussion with the children, choose several types of habitats to be found; for example, the ground bushes, a grassy area, a hedgerow, and a stony area. Before leaving the classroom, have the children suggest some kinds of animal life that they might expect to find in each location.

Then send a group of explorers to each location to discover whether the suggestions made were correct ones. Observing, describing, note-taking, and sketching can be part of this activity.

Have each group take notes on both the habitat and the animal life found there so that discussions can be conducted on what makes a certain habitat suitable for a particular kind of animal.

Make a list of the different kinds of natural areas that you can visit. Write the names of the mammals that live. Find out what kinds of homes the animals live in. Such a list might look like this:

NATURAL AREAS	MAMMAL	KIND OF HOME
Fields	Rabbits	Thickets, woodchuck holes

Fill in as much of the following information as you can about the mammals you meet. Plan to finish it when you get home.

1. Description of animal
2. Range
3. Young
4. Food
5. Economic Importance
6. Winter Behavior

Astronomy

Objective:

Activities:

A. Studying the Stars

Locating some of the constellations, such as the Big Dipper, Orion, and Cassiopeia, and learning the stories and legends about them can be fun. Finding out how to locate the North Star, using the "pointers" in the Big Dipper, is a valuable learning experience.

Point out the difference between stars and planets. Have the children try to explain why the light from heavenly bodies gives the effect that we call the "twinkling of a star," and make the children aware of the movement of the circumpolar stars. Noting the changes in the position of these stars makes a good activity.

Discuss the phases of the moon, the reasons for these phases, and why we never see "the other side" of the moon.

The whole subject of outer space can take on a special fascination and appeal if the discussion of sun, moon, and stars is related to man's new activities.

ARTS AND CRAFTS

Overview

There are many ways in which arts and crafts may be related to outdoor education, particularly if they employ native materials or interpret the outdoors through various techniques. The outdoor-related arts and crafts should be used in situations in which they contribute both to outdoor-related learnings and to the fields of arts and crafts themselves.

The outdoor-related crafts require ingenuity in the securing of materials and creativeness in the craft activities themselves. In gathering native materials, one must give consideration to conservation principles. Outdoor-related arts and crafts may be placed in five major categories: those using native materials, those interpreting the out-of-doors, those reproducing outdoor materials (casts and prints), those in which equipment to be used in the outdoor education program is constructed, and those in the form of displays and exhibits.

Art objects would be taken home by the children. To avoid loss or destruction, each teacher should keep the total groups' projects in a large, firm box. These will be distributed to the students as they disembark from the bus at the home school.

Arts and Crafts using Native Materials

Wood: Basswood, white pine, and cottonwood are good carving woods for the beginner because they are soft and easily worked and do not split easily. Driftwoods may often be used creatively.

Fibers: Fibers suitable for making ropes and rough cloth are found in many native plants. A few of these plants are yucca, Indian hemp, stinging nettle, and the inner bark of basswood.

Basket-weaving materials: Basket-weaving materials found growing wild include Japanese honeysuckle, willow, cattail, bulrush, grass, pine needles, and the bark of many trees.

Clay: Native clays, found in many places, may be molded and dried and, when kilns are on hand, fired for permanency.

Seeds: Seeds and cones of various types may be used. Cross sections of nuts such as hickories and black walnuts may be made into decorative pins, belts, and earrings.

Objectives: The students will observe the beauty in nature. They will acquire skills for use of out-of-door materials.

Activities and Materials:

A. Preparing a "Bank of Materials"

Build a store of natural materials from craft work--a sort of "bank" to draw from. Let the children participate in the gathering of many of these items for the "nature bank" with due regard for good conservation practices. Store the materials in covered jars or boxes.

B. Making Paint

Materials needed: Containers

Procedure: An experience in making paints might develop from a rock collecting trip. Select the site carefully, making sure that there are several kinds of rock soft enough to make a colored mark when rubbed on paper.. Iron ore or rust will make a deep yellow or an earthy red; limestone, chalk, or white clay will make cream, white or pale yellow; clay will make gray browns, soft blues, and dull browns. Clays can be burned to make their colors darker.

Powder the rocks by putting thoseof the same kind together in strong plastic or cloth bag and pounding it with a hammer, mallet, or a large, hard rock. Sift the powder through wire screening if necessary. Small pieces of rock that are screened out may be made into powder by grinding them between two stones.

C. Crafts

Make bird feeders to take back to school. These may be made from coffee cans or pie pans or by placing food on a pine cone.

D. Arts Interpreting the Outdoors

Painting, sketching, modeling, and photography find an infinite variety of subjects out-of-doors. Results may range from attempts at authentic reproduction to imaginative abstractions. Efforts to interpret the out-of-doors through art forms involve the ability to see, analyze, and understand what is visible in the natural environment.

E. Casts and Prints

Plaster of Paris and liquid plastics may be used to make casts of perishable natural forms, such as small fish, amphibians, and fungi. Plaster of Paris may also be employed in reproducing animal tracks and leaves. Prints of botanical materials--ink prints, blueprints, ozalid prints, and others may be made.

F. Experimenting with Color Schemes from Nature

Materials needed: water colors, paper

Procedure: Use water colors outdoors to make color schemes taken from nature. For example, take one flower or plant as a model, and paint a swatch of each color that is in it. Try using these colors in different proportions in several versions of the same picture. See whether the way in which the colors are combined changes the picture in any important way. Are some color combinations more pleasing than others? Discuss the results and the value they might serve in selecting a wardrobe.

G. Making Imaginative Drawings

Materials needed: chalk, paper

Procedure: On a day when the clouds are fluffy and white against a blue sky, take a sketching trip. Have the children discover and draw the forms of imaginary people and animals as they appear to them in the cloud forms. Chalk on colored paper is effective for this kind of sketching. Additional "features" not evident in the clouds may be added in charcoal.

H. "Picturing" the Wind

Have children observe the manifestations of the wind when it is blowing forcefully. Then have them try to portray the force of the wind by using sweeping, wrirling lines or by picturing objects bent, bowed, or swept along by the wind.

I. Making Cartoons about Natural Objects

Children's interest in cartoons can become the motivation for a special sketching period outdoors. Let each child make sketches in cartoon style of several natural objects such as trees, flowers, and plants or animals. Help each one to use his sketches in preparing a poster that stresses good manners and cooperation.

J. Achieving a Special Artistic Effect

Pictures drawn in crayon showing flowers or other natural objects may be given a dramatic, print-like effect by painting over the entire picture with dark paint. The background of the picture will absorb the paint, but the crayon parts will be unaffected and will stand out in sharp contrast.

K. Making Charcoal Drawings

Bits of charcoal from a burned-out campfire can provide both the inspirations and the materials for sketches. For charcoal drawing, paper with a slightly rough surface is preferable. If the class has never made charcoal drawings, demonstrate the method of making outlines with a piece of charcoal and shading the drawings by rubbing it with the fingers.

Leafless trees are a favorite subject for charcoal sketches. If you wish to portray trees just beginning to leaf out, try adding touches of green to the charcoal sketch of a tree by strippling with a dandelion blossom dipped in fairly thick green paint. A less permanent kind of stippling, in yellow, will result from using the blossom without the paint.

L. Observing the Colors

Schedule a hike for the purpose of observing colors in nature. At most times of the year, a great deal of color is visible outdoors. Many shades of green are apparent in grass, moss, lichen, and algae. Tree trunks and branches offer grays, greens, and reds. Leaves set the landscape ablaze with color.

The children may enjoy making charts or lists showing where various colors appear in the materials and objects observed or collected.

M. Leaf Designs

Put a leaf on a flat surface and place a piece of thin paper over it. Take a soft pencil or crayon, and holding the paper tightly over the leaf, rub the pencil or crayon back and forth on the paper. You will see the whole shape of the leaf emerge, and also all the tiny ribs and veins. Cut around the outline, and you will have a delicately drawn duplicate of your leaf.

You can use these cutout paper leaves to decorate book covers, litter-bags, paper tablecloths, and many other things. You might want to make your own notecards with a leaf design on the front.

N. Mobiles

You can make an attractive mobile by finding a piece of driftwood or a root that has lots of twisty ends. Suspend it from a wire so that it is balanced, and then from the ends, hang interesting shells, small pieces of coral, small rocks, or sculptured pieces of driftwood. This is an interesting way to display these objects. You can fasten thread, wire, or fishline to them with a little glue.

O. Landscape Drawings

Materials: water colors, crayons, paper, brushes

Procedure: Carry group to wooded area of campsite. Group will sit on the ground and paint the forest as they actually see it.

P. Preparing Clay for Modeling

Dig the clay and roll it into small balls that the foreign matter can be found and removed. Add enough water for thorough moistening, and then compress the clay to remove air pockets. Let the clay age for a day so that it will be easier to use.

If care has been taken to eliminate all air pockets from the clay, models made from it can be dried, glazed, and fired, or they can be dried and painted.

Q. Making Mobiles

Mobiles are fun to make, partly because they present problems of balance that can be solved in interesting ways. Go on a collecting trip to obtain sticks, pine cones, leaves, seed pods, bits of wood, and other natural materials for use in mobiles.

When the materials have been assembled, plan the arrangement, beginning at the bottom level of the mobile. Choose two objects and tie or glue a piece of black thread of the desired length to each object. Select a stick from which to suspend these objects, and hang the objects by their threads at opposite ends of the stick. Determine on the stick the balance point, and add a drop of glue so that the thread will not slip and unbalance the arrangement.

Then, plan the next higher level of the mobile and continue to add objects and levels until the desired effect is obtained. Hang the balanced assembly.

R. Preparing a Cast of a Print or Track

To make a plaster cast of a leaf print or an animal track, first prepare the print or track by brushing away all loose sticks, pebbles, or other debris. Then touch up the tracks as may be needed.

Make a collar of light cardboard one and one-half inches to two inches high, and use a diameter large enough to permit the collar to fit around the track or print. Clip the ends of this collar together, and press the collar gently into the ground. If the ground is hard, bank wet soil around the outside of the collar.

To mix the plaster, begin by pouring water (about two-thirds of the amount necessary to fill the collar) into a can. Sprinkle plaster of Paris over the surface of the water without stirring it until islands of plaster rise above the surface. Then stir the mixture gently with a clean stick until it has the consistency of thick cream. Pour the mixture over the print or track, working gradually enough to avoid creating bubbles.

Wait until the plaster feels warm and seems to be firm before picking up the cast. From 20 to 60 minutes will be required for the plaster to harden, depending on the moisture in the ground and in the air. When the cast is thoroughly dry, brush off the loose dirt and wash the cast if necessary.

S. Tracks--Who Walked Here?

Most animals are timid and have learned to hide themselves well. Look for tracks along the edges of water, where the animals come to drink. Dogs leave claw marks when they walk. Cats can pull their claws in. The best tracks for casting are found in mud. Get the animal's track in a pan of moist dirt.

Materials needed: Plaster of Paris for casts, water, a strip of cardboard one and one half inches wide, paper clip, empty tin can, brush, sponge, stick for stirring.

Procedure: Brush away all twigs, small stones, or dirt on the ground around the tracks. Sponge up water in the tracks. Surround tracks with the strip of cardboard. Fasten in place with with paper clip. Put a cupful of water in the can. Pour dry plaster of Paris slowly into water, stirring until mixture is thick. Pour plaster slowly

W. Transfer Prints

Materials needed: Leaves, ferns, or grasses, pane of glass, newspapers, paper, oil-based printer's ink, roller, spoon, rags or paper towel, turpentine.

Procedure: Cover the work area with newspaper. Place leaf on paper, vein side up. Ink your roller. Squeeze small amount of ink onto pane of glass. Roll the inked roller over the leaf two or three times. Lift the leaf and slip a clean sheet of newspaper under it. Then place the sheet of paper you want to use carefully in place on top of the inked leaf. Place a piece of folded newspaper on top of the print paper. Hold down the papers with one hand and rub the back of the spoon over all of the newspaper until you have covered every inch of the paper. Remove paper and gently lift the paper you printed. After you have finished, clean up with the turpentine.

SOCIAL STUDIES ACTIVITIES

Many natural activities and experiences can be used to foster democratic living. Sociological experiences in the out-of-doors can deal broadly with the history, geography, and economics.

Among the experiences which social studies in the out-of-doors includes are identifying with others, sharing ideas, materials, and responsibility, solving problems cooperatively, working with others, learning about native cultures, and career occupations related to the outdoors.

Outdoor Skills and Pioneer Arts

Objectives: The student will:

1. Become familiar with tools that are commonly used in the outdoors.

2. Learn proper use and safety of tools.
3. Learn the basic skills of ropework and the uses of different types.
4. Know how to select types of ropes for different purposes.
5. Students will learn how to build small structures of natural resources, camp craft tools and ropes.

Activities:

1. Demonstration and explanation
    a. Knives
    b. Axes
    c. Saws
2. Student participation in use of tools for different purposes
3. Demonstration and explanation
    a. Knots, bends, hitches
    b. Lashing
4. Student participation in use of ropes
5. Group participation in building and construction
    a. Bench
    b. Utility table
    c. Simple camp stool or furniture
    d. Weather vanes
6. Carving/whittling
7. Make kites

Cookout Activity

Objectives: The students will:

1. Learn to build a fire safely

2. Learn to follow directions

3. Learn to work cooperatively

4. Learn to extinguish a fire when leaving it

5. Learn techniques for cooking out

6. Learn to leave the camp surroundings clean

7. Develop techniques for cooking out to be used as adults.

Procedures: All students will participate in the cookout. For three-day students, this activity will be conducted on Monday evenings. For two-day students, the activity will be conducted on Thursday evenings. The cookout will be under the direction of the counselor/instructor and will include the students in the c/i's group.

Students should be given specific assignments to gather wood, build the fire, and prepare the food. The process should be a learning experience, actively involving each child. Putting the fire out and leaving grounds clean should also be a learning experience.

One of two suggested menus will be followed.

Suggestion 1 - Weiner Roast

Supplies needed:
Paring knife
Matches
Can opener
Large spoon
Sticks to roast weiners and marshmallows
Pan
12 paper plates
12 cups

Drinks
Beans
Weiners
Buns
Mustard
Napkins

The students will roast their weiners and heat the beans. Marshmallows should be roasted for dessert.

Suggestion 2

Supplies needed:

Frying pan
Matches
Onions
Knife
Large spoon
Shortening
Ground meat
Large cans
Can tomatoes
Can beans
Bottle chili sauce
Bread
Carrots
Apples
Oranges
Celery
Paper plates
Forks
Drinks
Cups

Frying pans are put over the fire and the onions are sliced and put on to brown. Next, ground meat is added to the pans containing the onions. When the meat is completely done, it is transferred from the frying pans to No. 10 tin cans already provided at the camp. Tomatoes, beans, and chili sauce are added and stirred together, put over the fire, and allowed to simmer until hot enough to serve. Served on bread toasted by individual campers, with raw carrots and celery on the side and apples and oranges for dessert, this makes a balanced, one-dish meal, easy to carry and prepare.

Suggestions for Evening Campfire Programs

1. Students each contribute one piece of wood to a "friendship fire." As the stick is placed on the fire, each student makes a silent, personal commitment (not related to the camping experience).
2. Speaker on astronomy to give legends and point out constellations in sky.
3. Storyteller to tell Paul Bunyan legends.
4. Skits by student groups or charades.
5. Competition at group crossword puzzles.
6. Sharing of the day's experiences by each group.
7. Demonstration on homemade camping equipment.
8. Roasting marshmallows.

Survival Education

Objectives: The student will:

1. Become aware of some problems they may be likely to encounter when moving from city living to outdoor living.
2. Be able to plan and prepare for major dangers and will be able to identify ways to prevent dangers.

Activities:

1. Group discussion of the following:
    a. Have I given my parents all the information they may need about my trip?
    b. Is my body in sufficient condition to take the strain of the trip?

c. Have I the right food along to replace what my body uses?

d. Do I have reserve food for unexpected delays or emergencies?

e. What do I use for warmth, either clothes or fire building?

f. How can I keep cool?

g. What can I use for food if it is needed?

h. Do I have adequate shoes?

i. How much first aid do I know?

j. Demonstration in survival.

MODEL FARM

Objective: Children will learn which animals are on the farm and how the farmer lives. Children will learn about the farm and how to care for farm animals. Children will milk the cows and make butter. Children will observe good practices in land management and will get an appreciation of rural living.

SUGGESTED RESOURCE PEOPLE TO VISIT CAMPSITE

1. Meteorologist
2. Soil Conservationist
3. Indian
4. Farmer
5. County Agent
6. Cowboy
7. Geologist
8. Official from waste treatment plant
9. Pollution control official (air)

10. Water pollution control official
11. Water purification plant official
12. Musician

CULMINATING ACTIVITIES

Wednesday and Friday

Place to assemble: Under trees

Menu: Hamburgers
French Fries
Ice Cream
Soft Drinks

Activities: Folk singing
Evaluation of camp activities
Suggestions to improve camp for next year

BACK ON THE SCHOOL CAMPUS

1. Do a conservation project on your school grounds - plant wildlife foods, do erosion control, develop wildlife shelter, build bird feeders and houses.
2. Take a bird census several times during the year. Keep good records. Do different kinds of birds like different parts of the area? Are some species in flocks, pairs, or singles? Do different birds come at different times of the day?
3. Make a series of posters on insects which are: pollinators, soil conditioners, predators, weed destroyers, manufacturers, scavengers.

4. Take the class on a short field trip around the school and make a list of all discarded objects they can find, no matter how small. Categorize the items in three columns: (1) will decay easily (2) will decay slowly (3) will not decay noticeably. Which of these should have been discarded in the trash can? Are there some items which may have been beneficial discarded here? (an apple core)
5. On a field trip or in class, try to determine the facotrs that influence your environment. Which of these were created by man? Which of these are helpful? Which are harmful? Do these facors affect wildlife in the same ways that they affect you?
6. Have two students in each group. Give them a one yard long string. Tie the string so that you have a circle. Toss the string on the ground and stretch it into a circle. Look at the area inside the circle. List all of the things you can find within the circle. Discuss as a total class the items each group found. How did they differ?
7. Have the students write a "travel report" of where they went for camp. Describe details of the environment you visited. How did you feel about the experience?

EVALUATION COMMITTEE

The evaluation committee, made up of the following individuals, will monitor activities of the three-day and two-day camps monthly. Curriculum and logistics will be changed according to recommendations of the committee.

EXHIBIT G

TEACHER'S EVALUATION

This evaluation has been made completely anonymous in order to elicit your candid responses.

Please evaluate each of the following items on a five (5) point scale, with five (5) being the highest rating. Circle appropriate number.

1. How effective was the planning session in preparing your class for this outdoor experience?

   5 4 3 2 1

2. Were the camping activities appropriate to the level of your students?

   5 4 3 2 1

3. Did the camping activities provide learning experiences for your students?

   5 4 3 2 1

4. List three things your students gained from this outdoor experience.

5. What follow-up activities did you plan for your students?

6. Do you have any suggestions for changes and/or additions to the Outdoor Learning Program?

EXHIBIT H

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EXHIBIT I

Pre-test

Name ______________________________

Name of School ______________________

Today's Date ________________________

I am a (circle one): Girl Boy

I am (circle one): Black Mexican American Other

Circle your responses to each question.

1. Do you enjoy camping out-of-doors?	Yes	No	Don't Know
2. Can you build a campfire?	Yes	No	Don't Know
3. Do you enjoy a nature walk?	Yes	No	Don't Know
4. Should you kill snakes that you see?	Yes	No	Don't Know
5. Have you ever been camping before?	Yes	No	Don't Know
6. Do you think you will be able to make new friends at camp?	Yes	No	Don't Know
7. Would you like to take your family camping?	Yes	No	Don't Know
8. Do you believe you should take care of the environment?	Yes	No	Don't Know

9. If you circled yes to question #8, please explain why you should take care of the environment.

Post-test

Name ______________________________

Name of School ______________________

Today's Date ________________________

I am a (circle one): Girl Boy

I am (circle one): Black Mexican American Other

Circle your response to each question.

1. Did you enjoy camping out-of-doors? Yes No Don't Know
2. Can you build a campfire? Yes No Don't Know
3. Do you enjoy a nature walk? Yes No Don't Know
4. Should you kill all snakes? Yes No Don't Know
5. Would you like to go camping again? Yes No Don't Know
6. Did you make new friends at camp? Yes No Don't Know
7. Would you like to take your family camping? Yes No Don't Know
8. Do you believe you should take care of the environment? Yes No Don't Know
9. If you answered yes to question #8, please explain why you should take care of the environment.

10. What did you like most at camp?

11. What did you not like at camp?

EXHIBIT J

EXPERIMENTAL DATA

Percent changes from pre-test to post-test
and percent changes from pre-test to post-post-test

		Pre-Test	Post-Test	Percent Change	Post-Post Test	Total Percent Change
1.	*a.	.73	.99	+.26	100	+.27
	*b.	.02	.01	-.01	0	-.01
	*c.	.25	.02	-.23	0	-.23
2.	a.	.39	.62	+.33	.63	+.33
	b.	.29	.16	-.13	.14	-.11
	c.	.32	.22	-.10	.23	-.09
3.	a.	.90	.89	-.01	.96	+.06
	b.	.03	.10	+.07	.04	+.01
	c.	.07	.01	-.06	.00	-.06
4.	a.	.31	.06	-.25	.04	-.27
	b.	.50	.83	+.33	.93	+.43
	c.	.19	.11	-.09	.03	-.17
5.	a.	.49	.97	+.48	100	+.51
	b.	.50	.02	-.48	.00	-.50
	c.	.01	.01	0	.00	-.01
6.	a.	.88	.97	+.19	.98	+.20
	b.	.01	.02	+.01	.02	+.01
	c.	.11	.01	-.10	.00	-.11
7.	a.	.80	.82	+.02	.88	+.08
	b.	.07	.07	0	.04	-.03
	c.	.13	.11	-.02	.08	-.05
8.	a.	.93	.96	+.03	.98	+.05
	b.	.03	.01	-.02	.00	-.03
	c.	.04	.03	-.01	.02	-.02

a - Yes
b - No
c - Don't Know

CONTROL DATA

Percent changes from pre-test to post-test

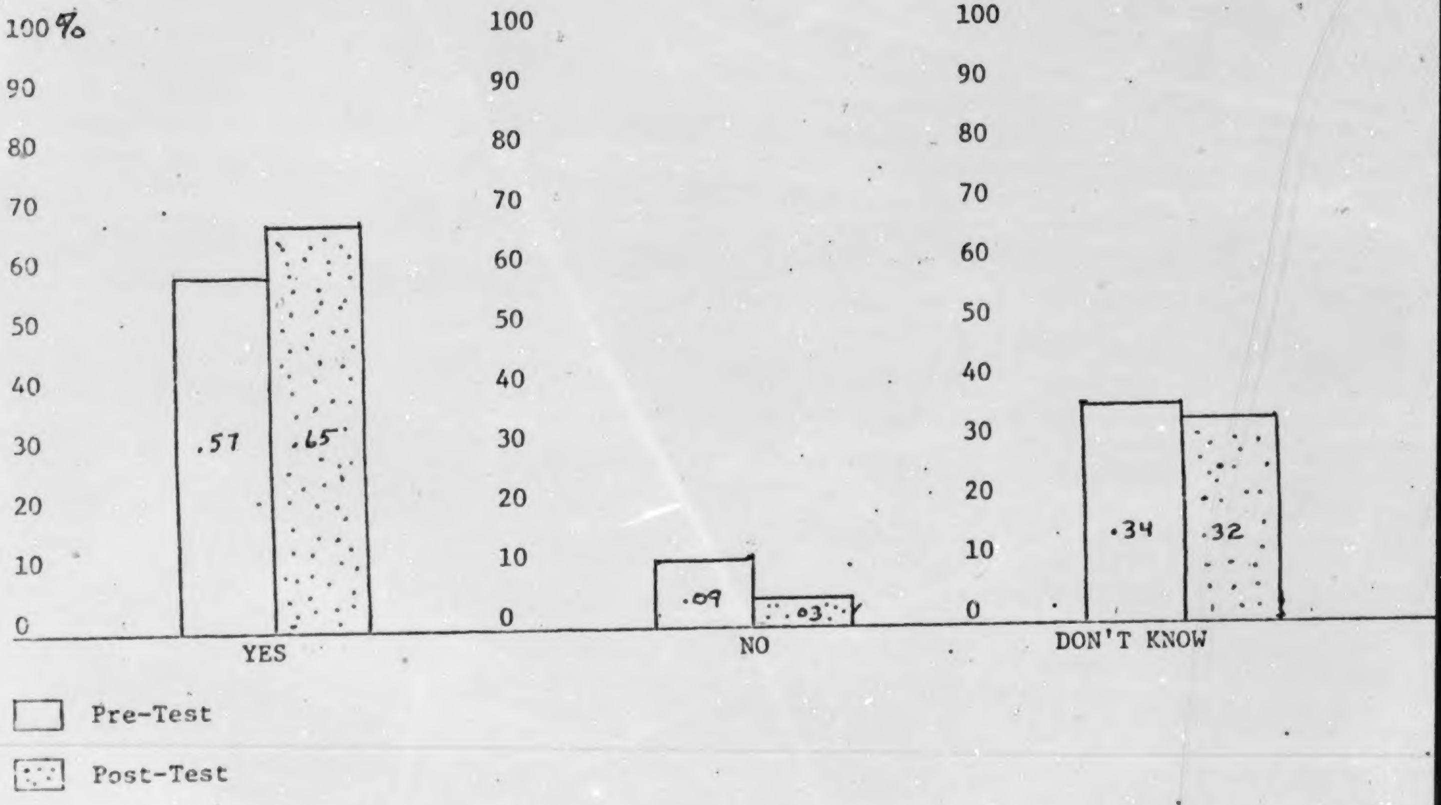
		Pre-Test	Post-Test	Percent Change
1.	*a.	.57	.65	+.08
	*b.	.09	.03	-.06
	*c.	.34	.32	-.02
2.	a.	.40	.42	+.02
	b.	.22	.21	-.01
	c.	.38	.37	-.01
3.	a.	.68	.72	+.04
	b.	.13	.07	-.06
	c.	.19	.21	+.02
4.	a.	.16	.15	-.01
	b.	.64	.79	+.15
	c.	.20	.06	-.14
5.	a.	.62	.59	-.03
	b.	.05	.06	+.01
	c.	.33	.35	+.02
6.	a.	.70	.74	+.04
	b.	.18	.12	-.06
	c.	.12	.14	+.02
7.	a.	.65	.71	+.06
	b.	.06	.07	+.01
	c.	.29	.22	-.07
8.	a.	.92	.97	+.05
	b.	.01	.00	-.01
	c.	.07	.03	-.04

a - Yes
b - No
c - Don't Know

EXHIBIT K

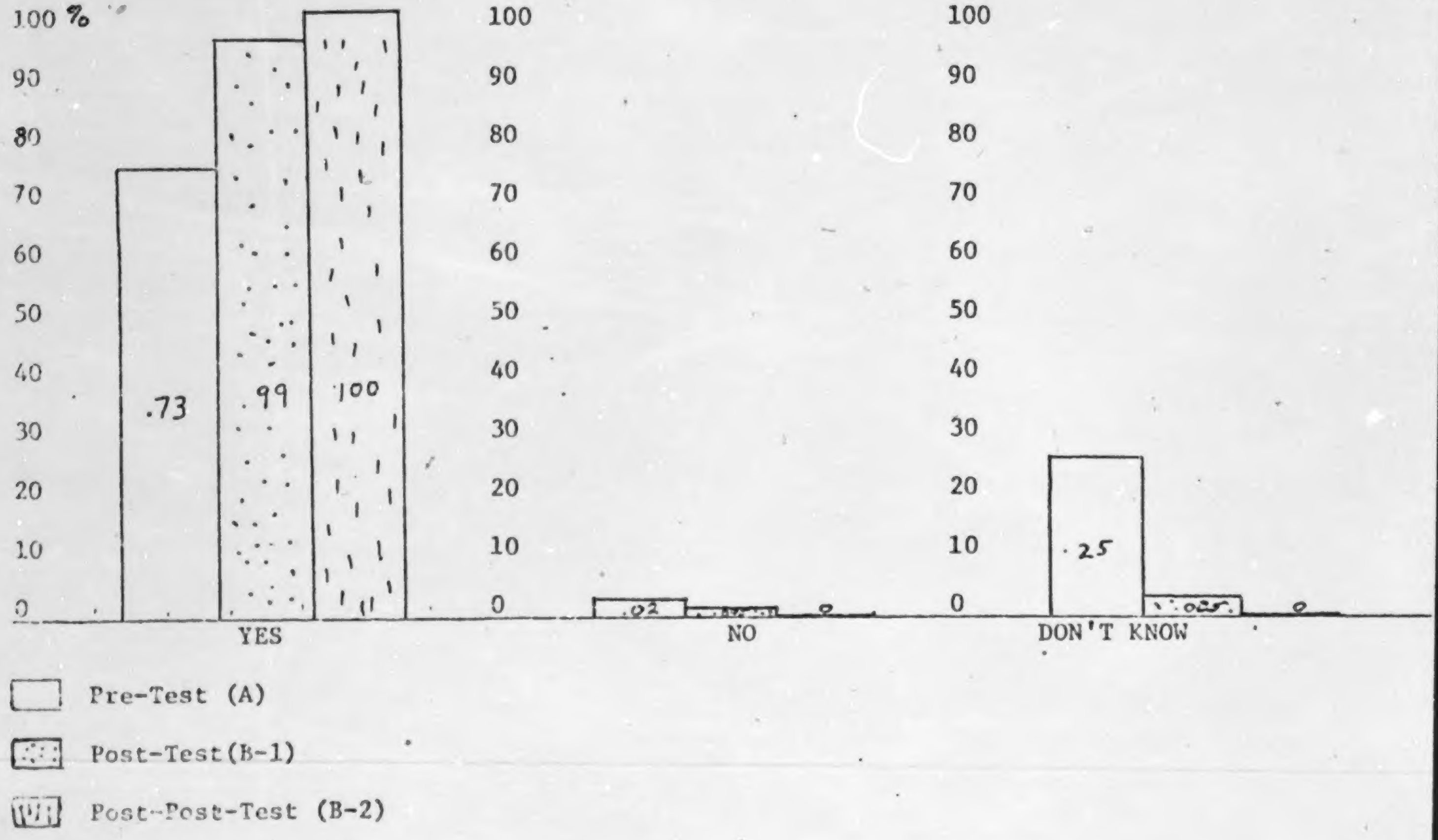
SUMMARY OF RESPONSES FROM CONTROL GROUP
ON QUESTION ONE

Question One: Do you enjoy camping out-of-doors?



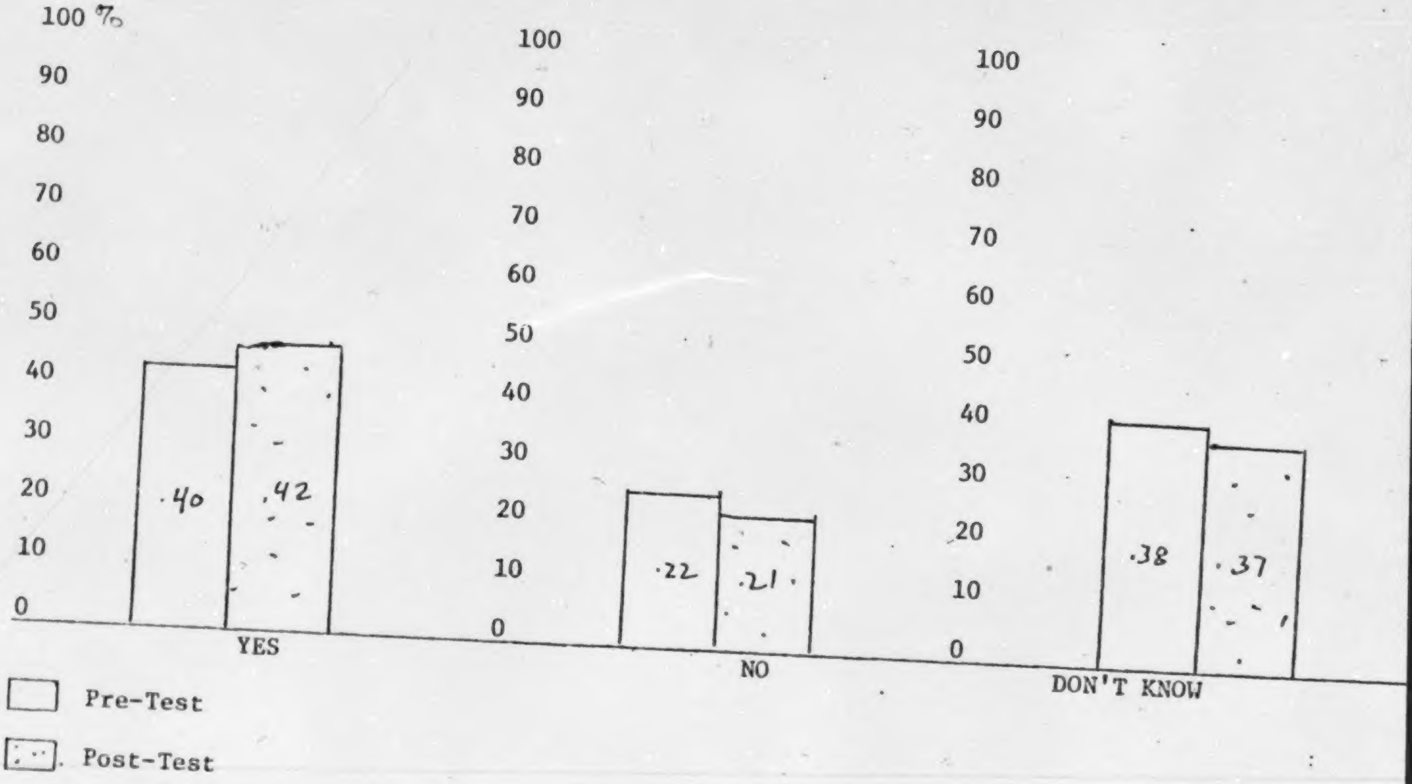
SUMMARY OF RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION ONE

Question One: Do you enjoy camping out-of-doors?



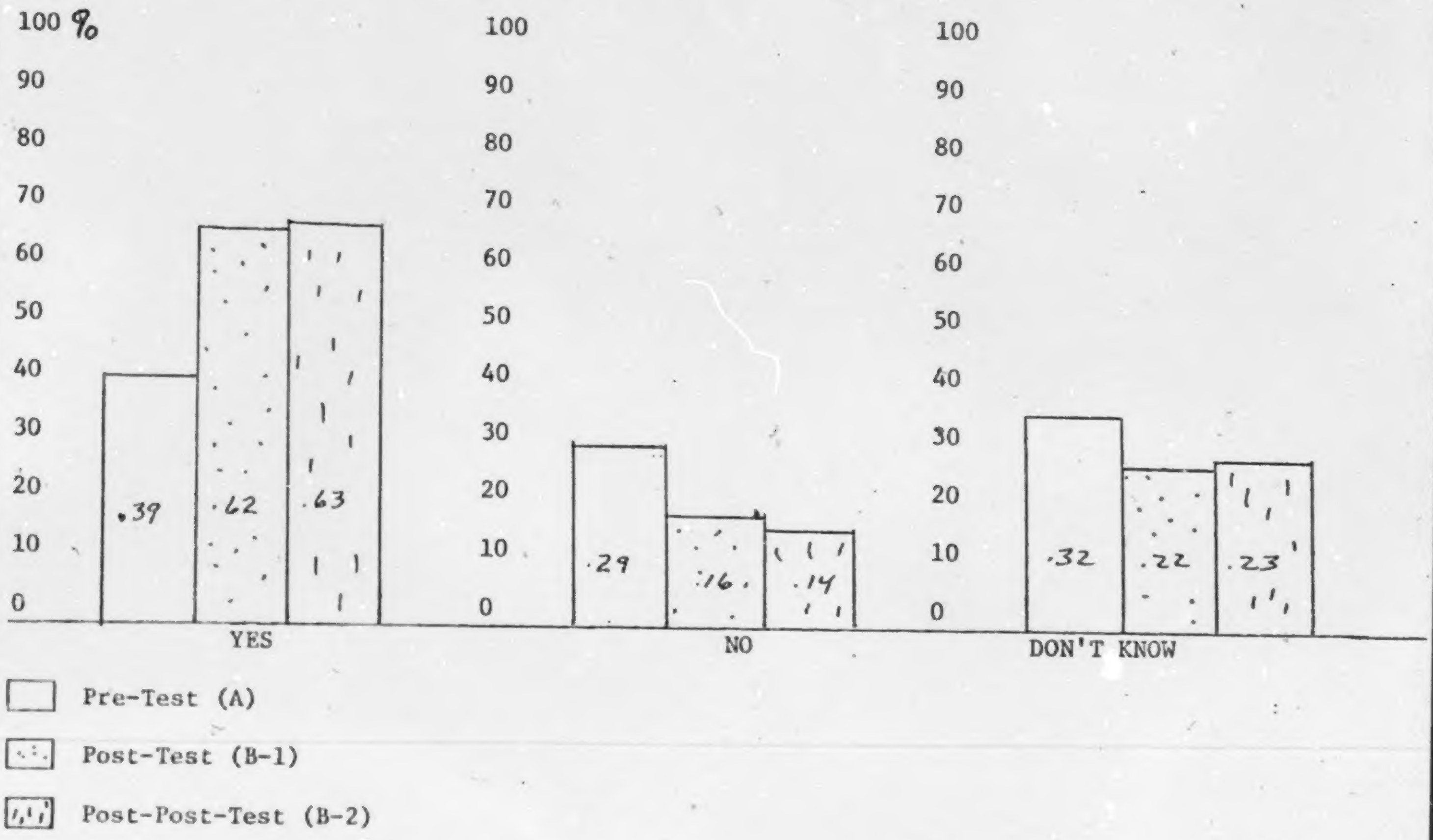
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP ON QUESTION TWO

Question Two: Can you build a campfire?



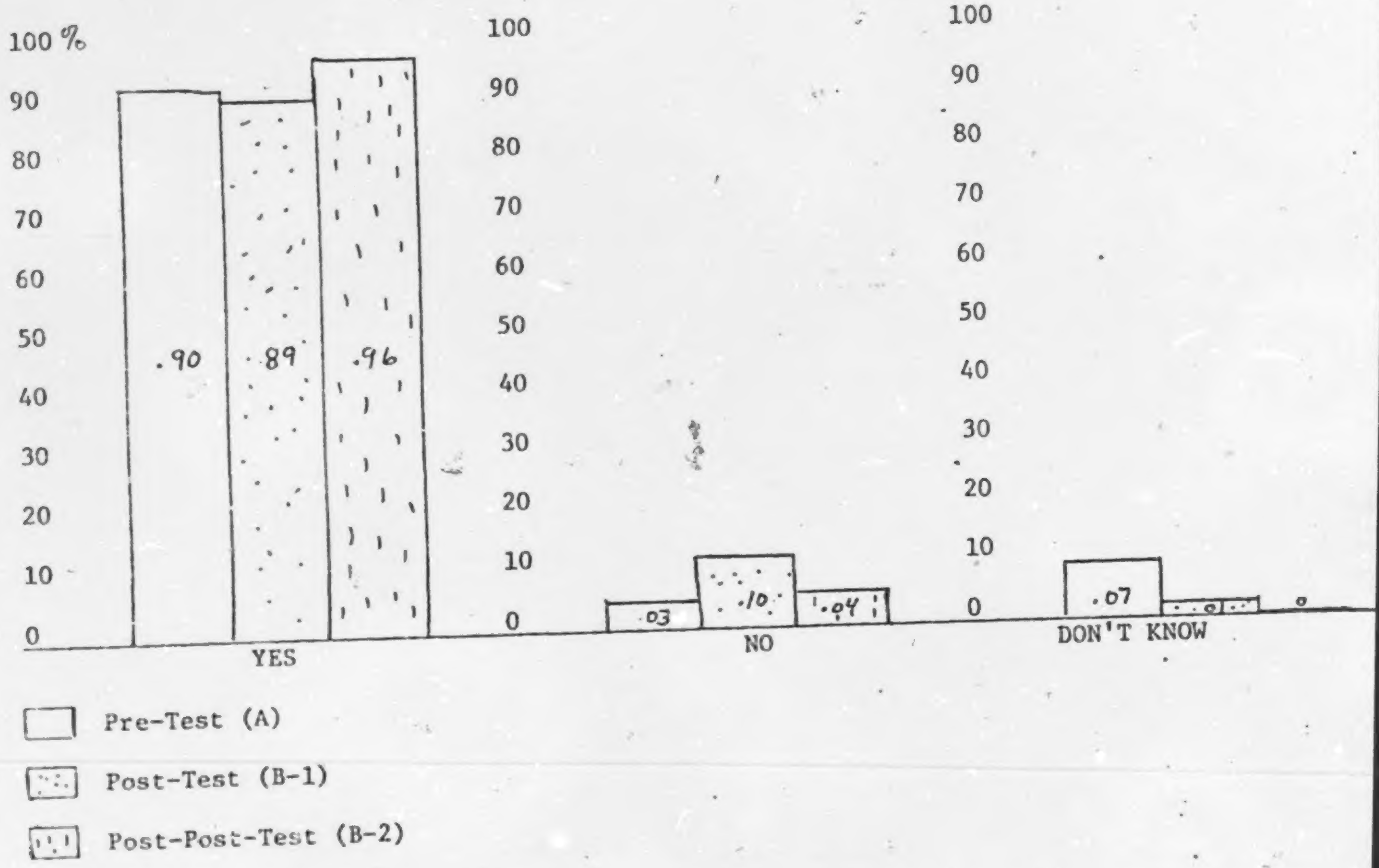
SUMMARY OF STUDENT RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION TWO

Question Two: Can you build a campfire?



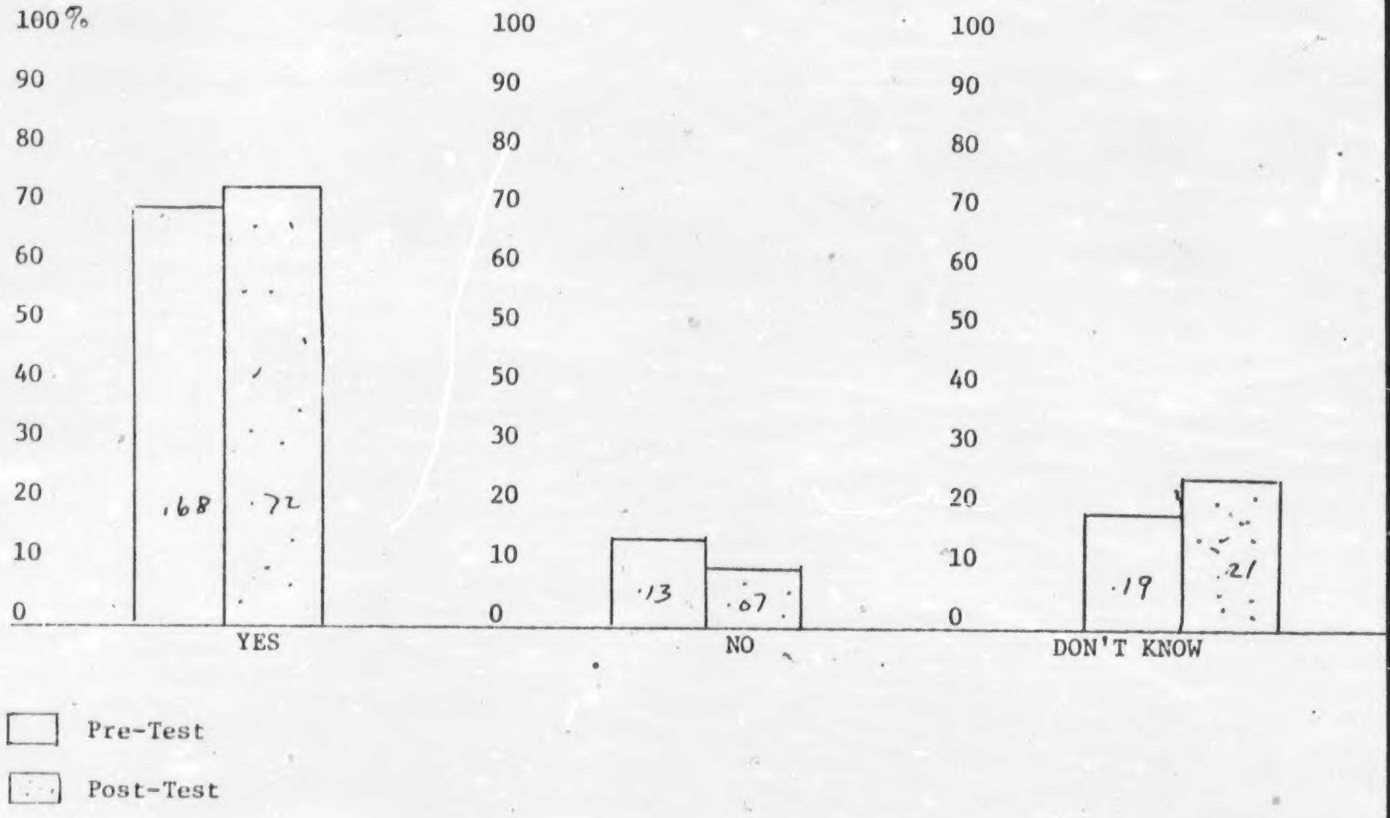
SUMMARY OF RESPONSES FROM EXPERIMENTAL GROUP
ON QUESTION THREE

Question Three: Do you enjoy a nature walk?



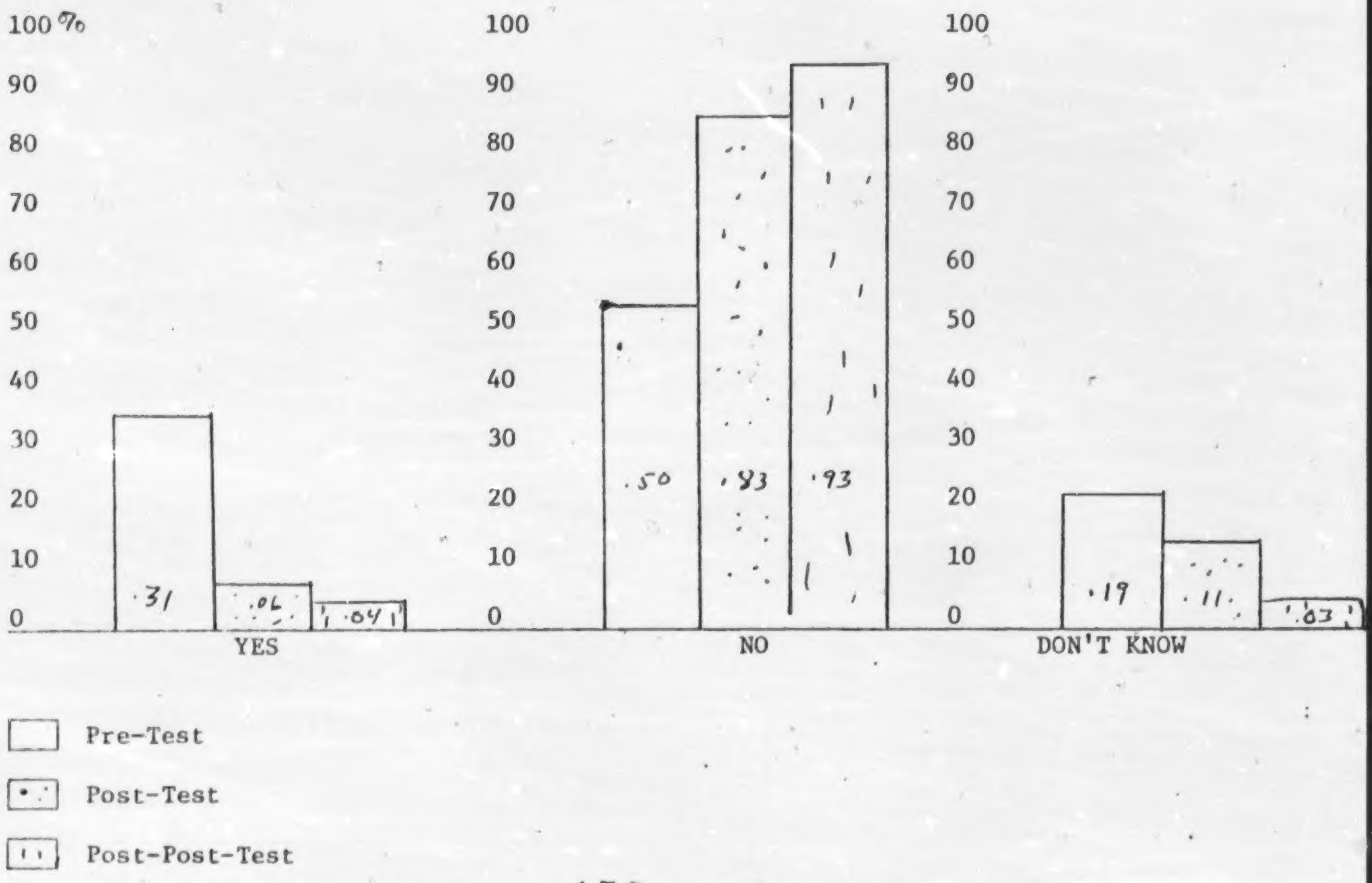
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP ON QUESTION THREE

Question Three: Do you enjoy a nature walk?



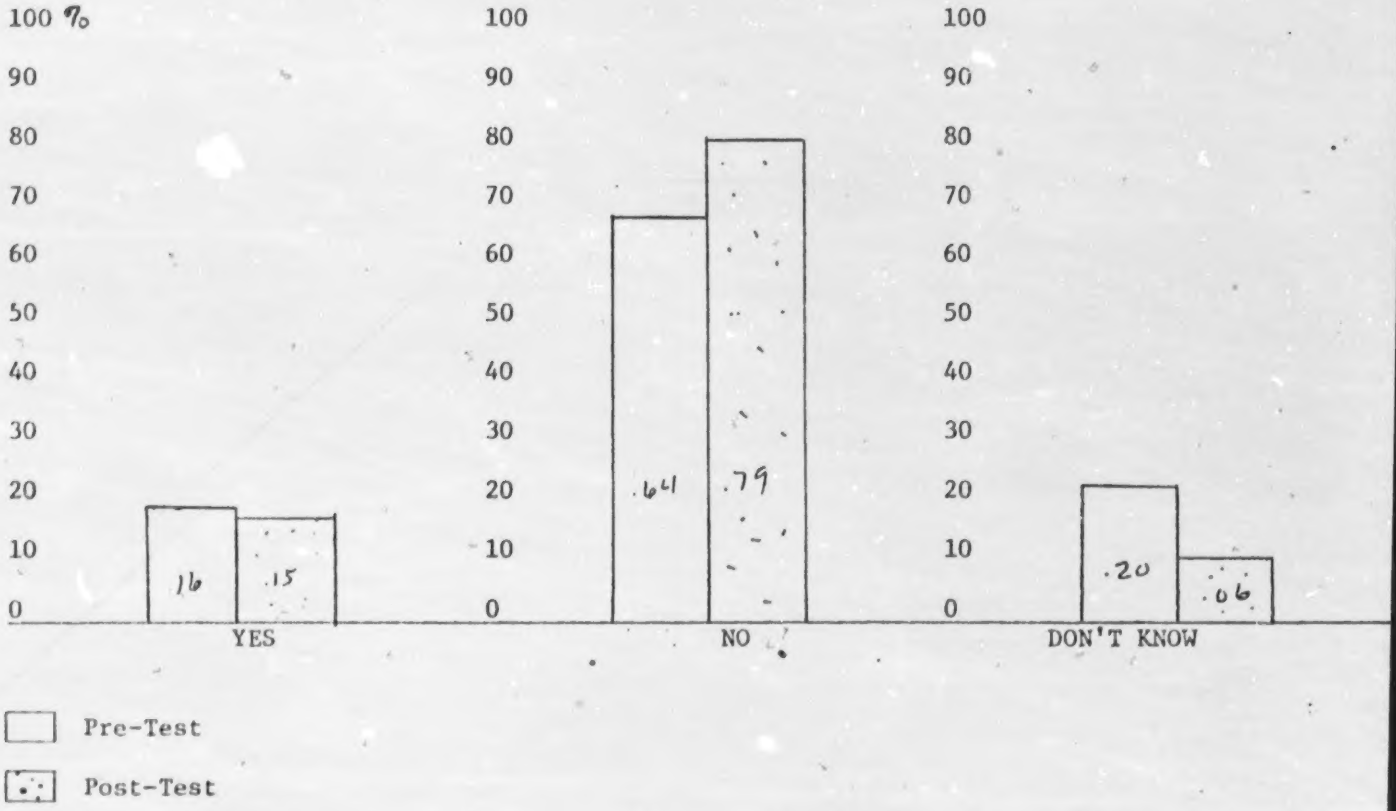
SUMMARY OF STUDENT RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION FOUR

Question Four: Should you kill all snakes?



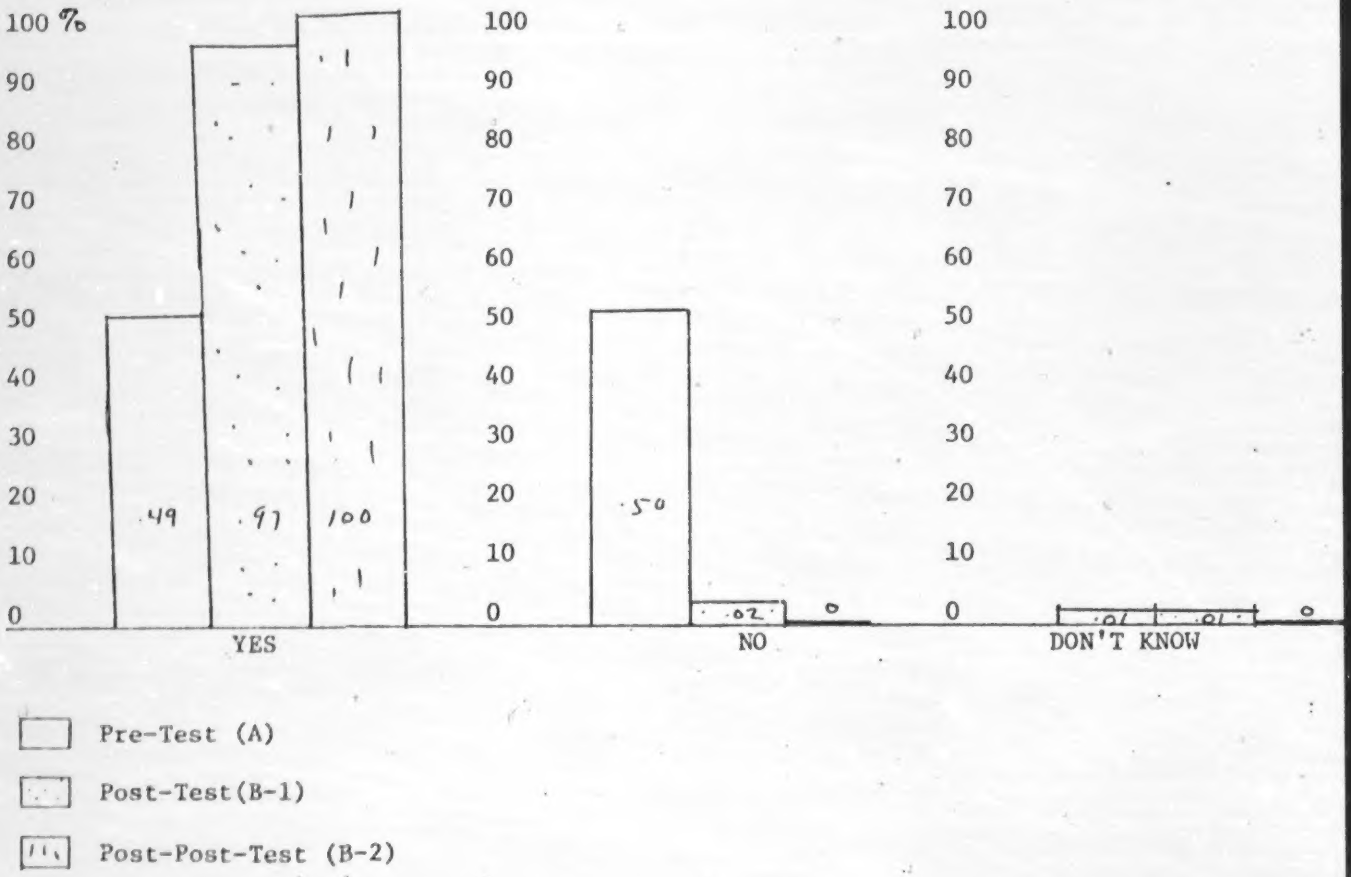
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP ON QUESTION FOUR

Question Four: Should you kill all snakes?



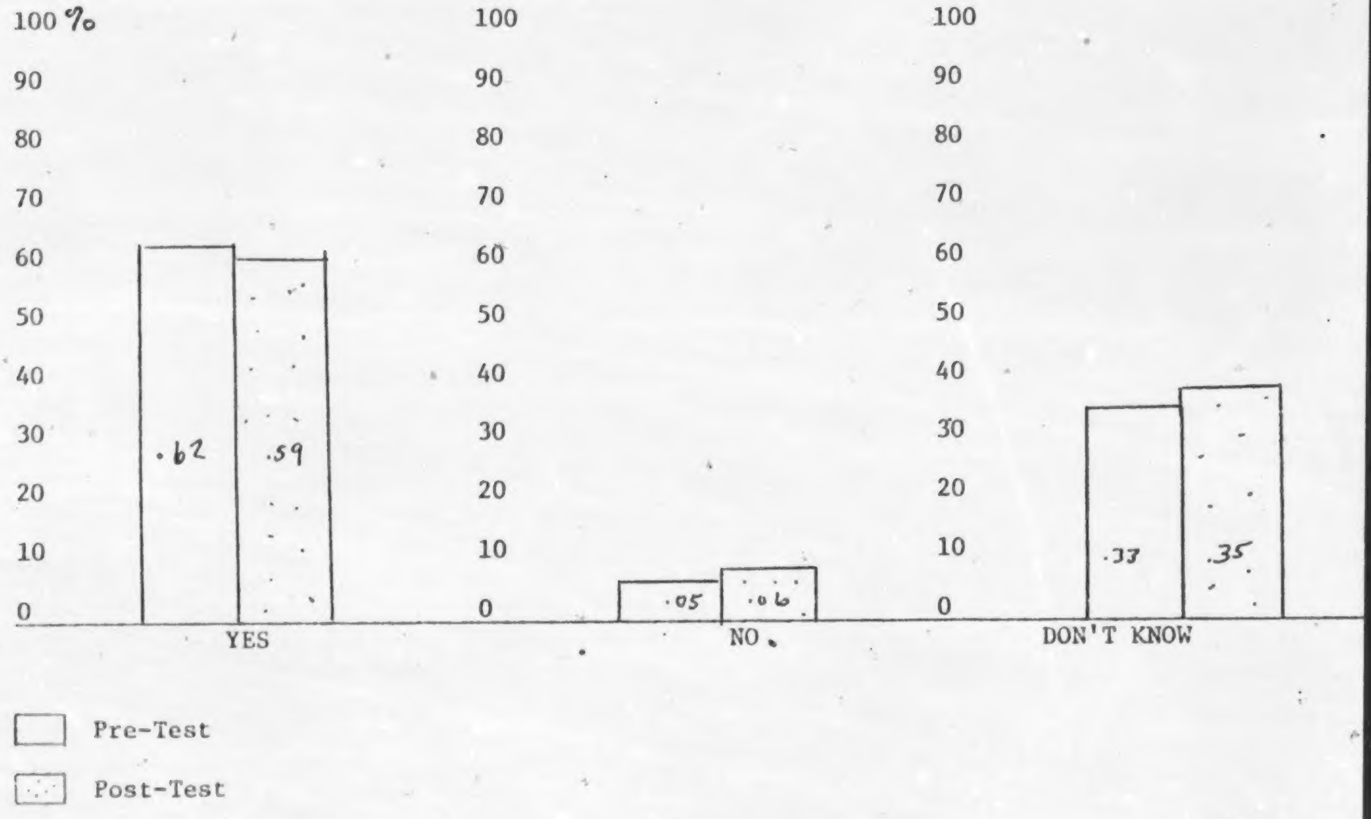
SUMMARY OF STUDENT RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION FIVE

Question Five: Do you like to go camping?



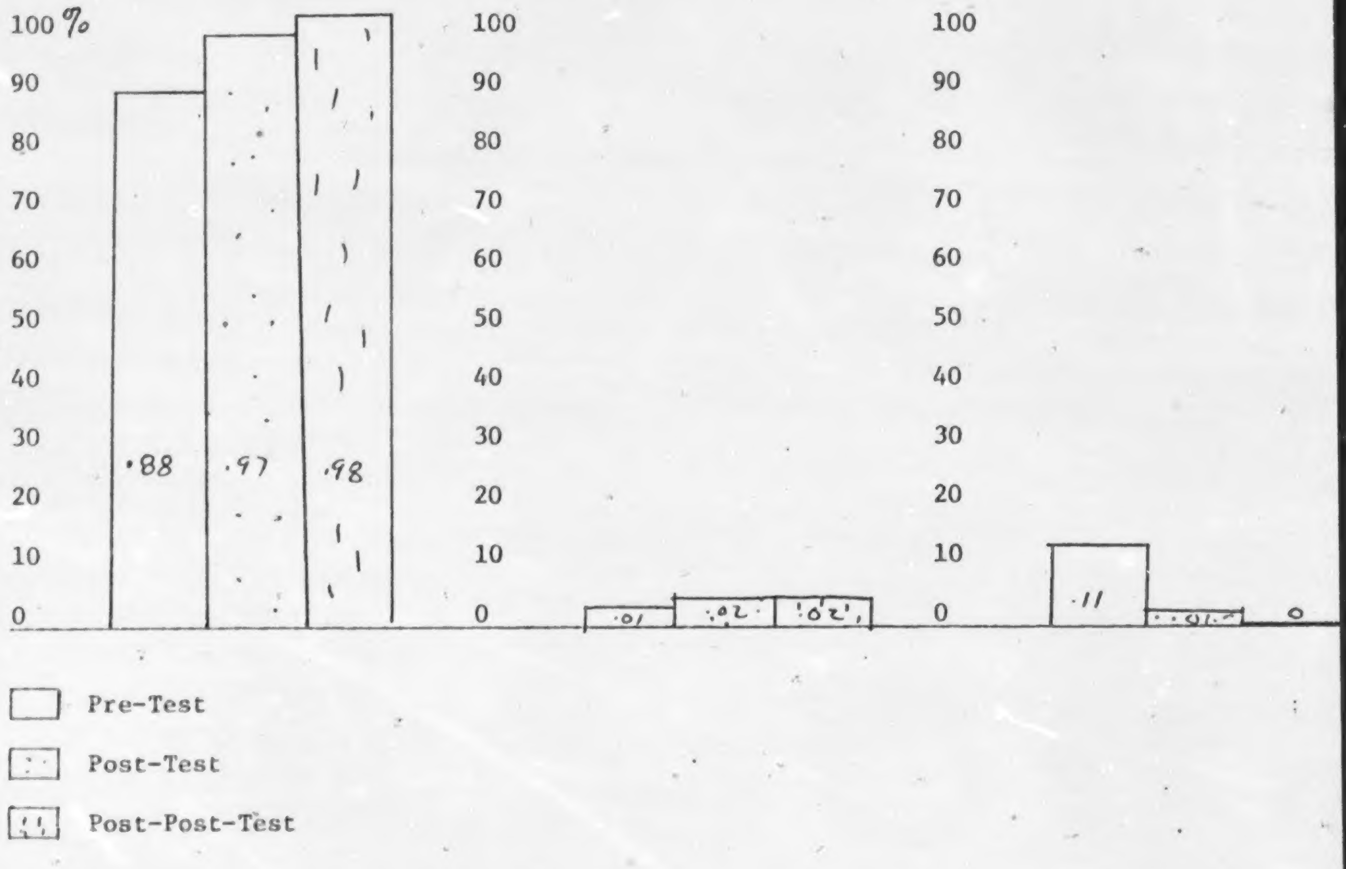
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP
ON QUESTION FIVE

Questive Five: Do you like to go camping?



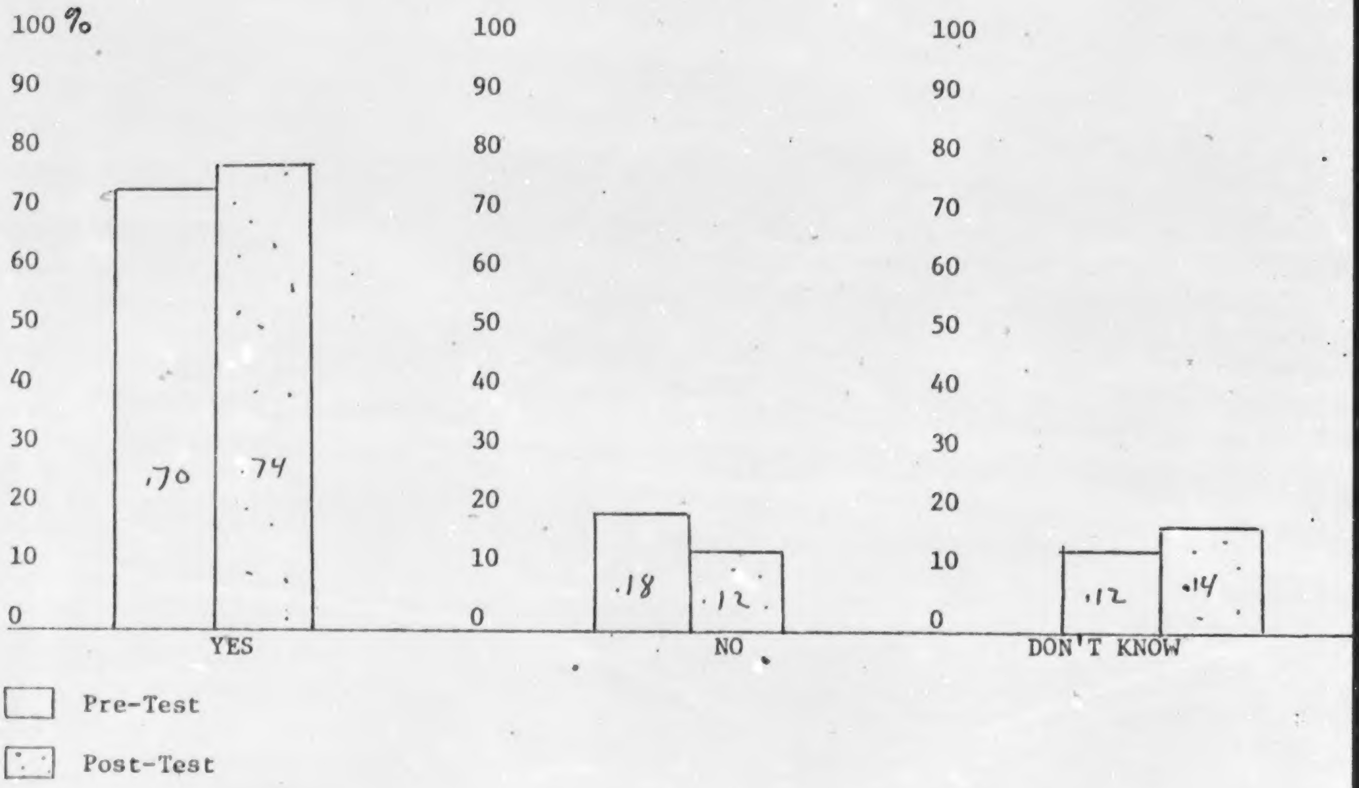
SUMMARY OF STUDENT RESPONSES FROM EXPERIMENTAL GROUP
ON QUESTION SIX

Question Six: Did you make new friends at camp?



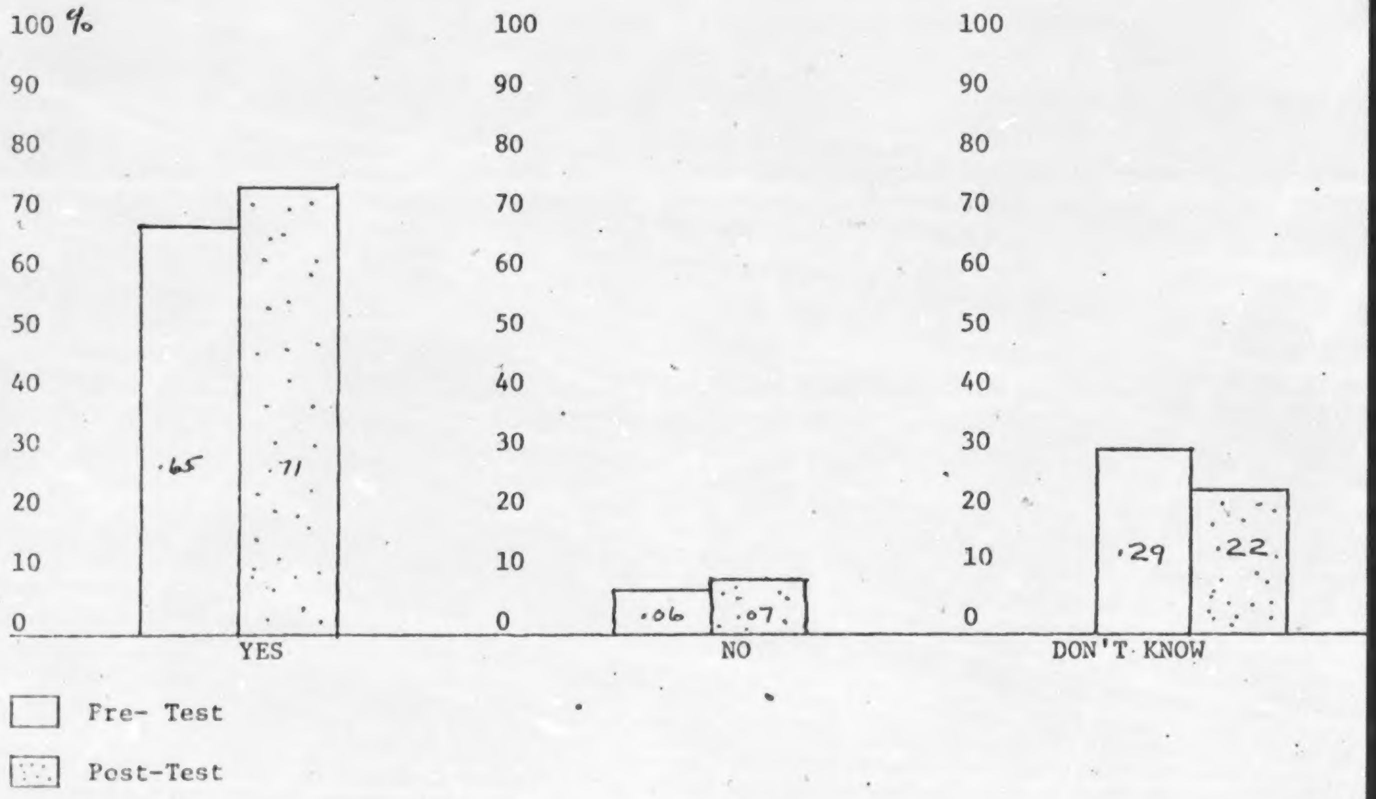
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP ON QUESTION SIX

Question Six: Do you think you will make new friends at camp?



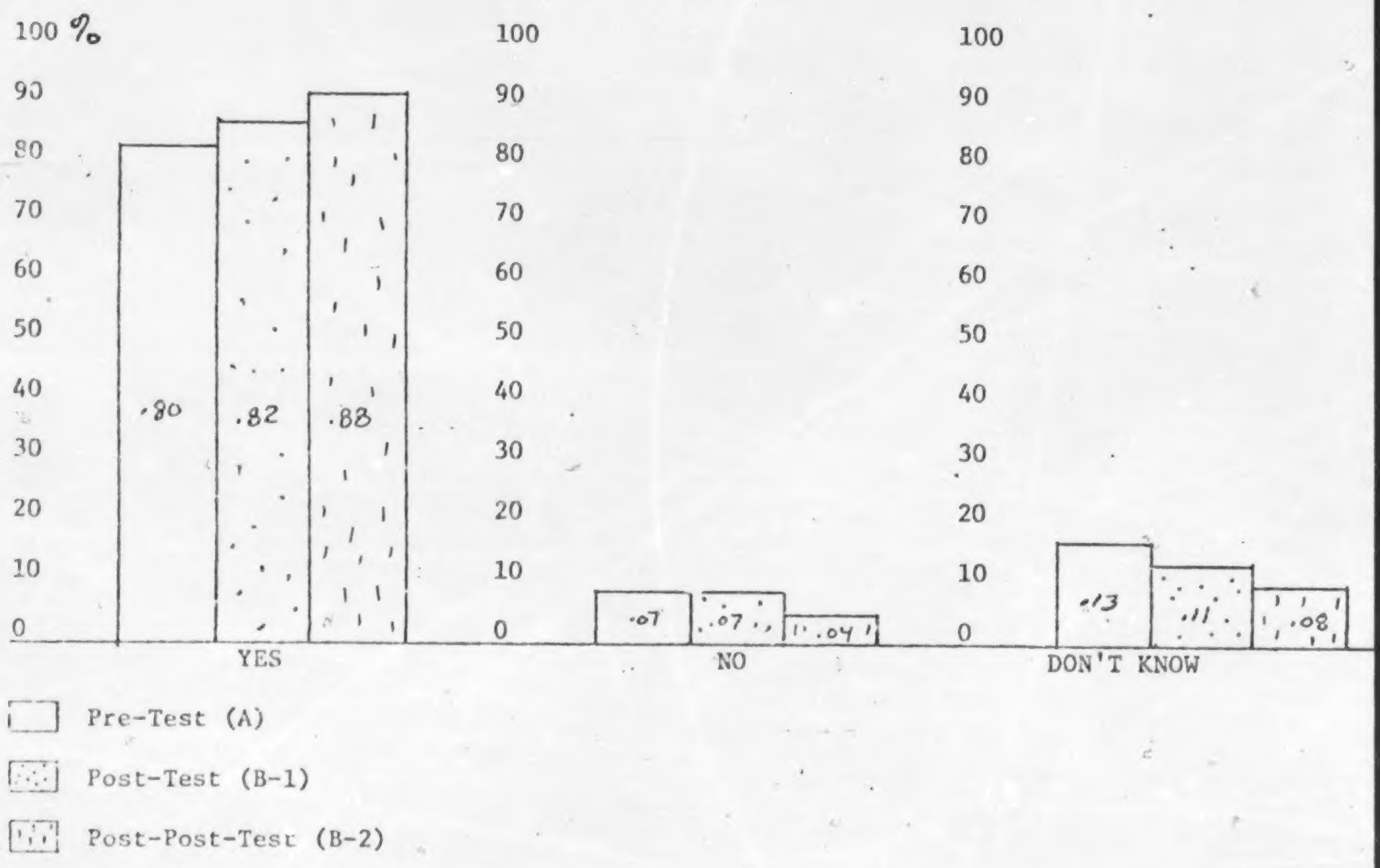
SUMMARY OF STUDENT RESPONSES FROM CONTROL GROUP ON QUESTION SEVEN

Question Seven: Would you like to take your family camping?



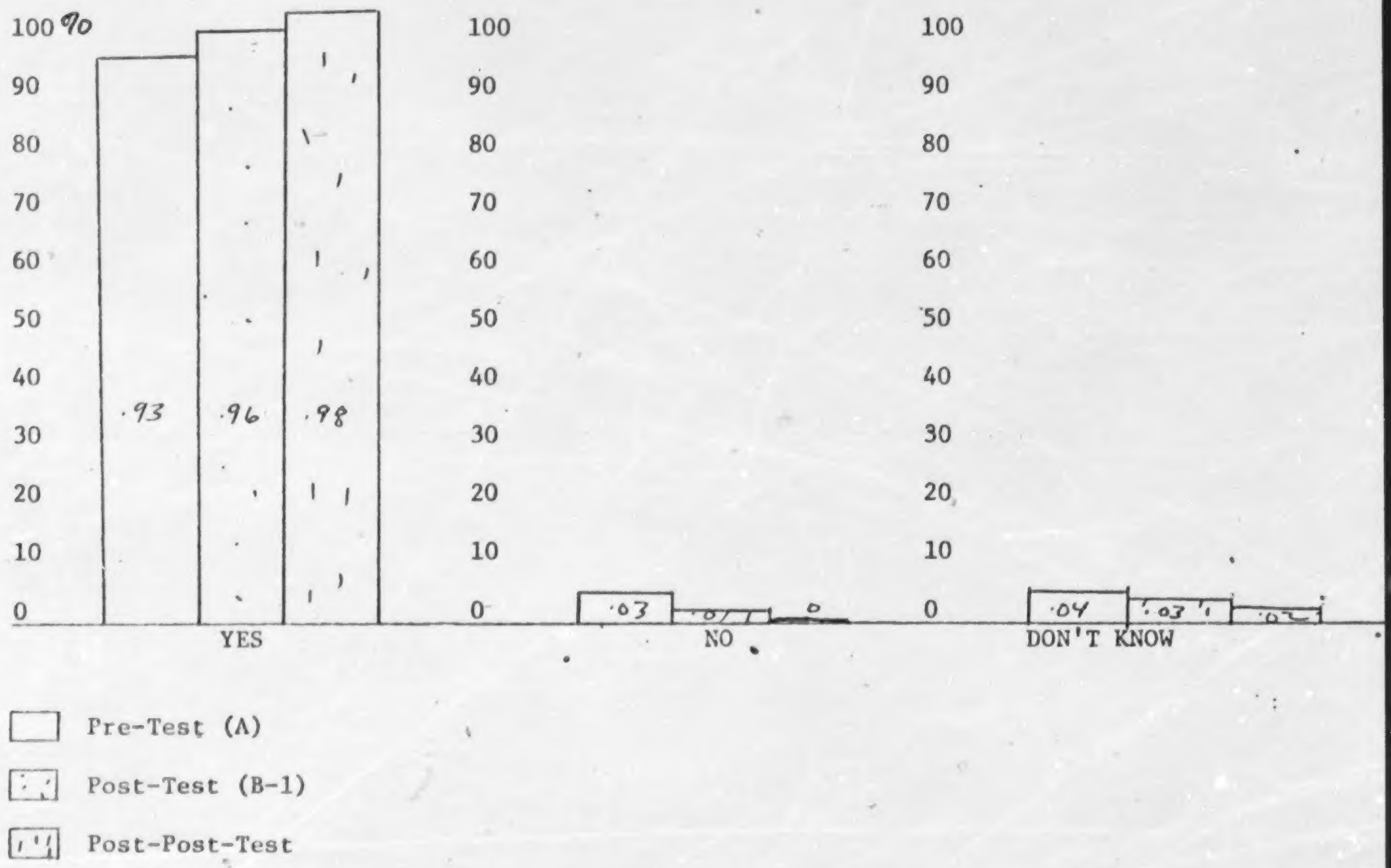
SUMMARY OF STUDENT RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION SEVEN

Question Seven: Would you like to take your family camping?



SUMMARY OF RESPONSES FROM EXPERIMENTAL GROUP ON QUESTION EIGHT

Question Eight: Do you believe you should take care of the environment?



SUMMARY OF RESPONSES FROM CONTROL GROUP ON QUESTION EIGHT

Question Eight: Do you believe you should take care of the environment?